

ASIAN COMPOSERS' FORUM IN SENDAI, JAPAN, 1987.

SEMINAR C, 19 SEPTEMBER 1987

– Ian Shanahan

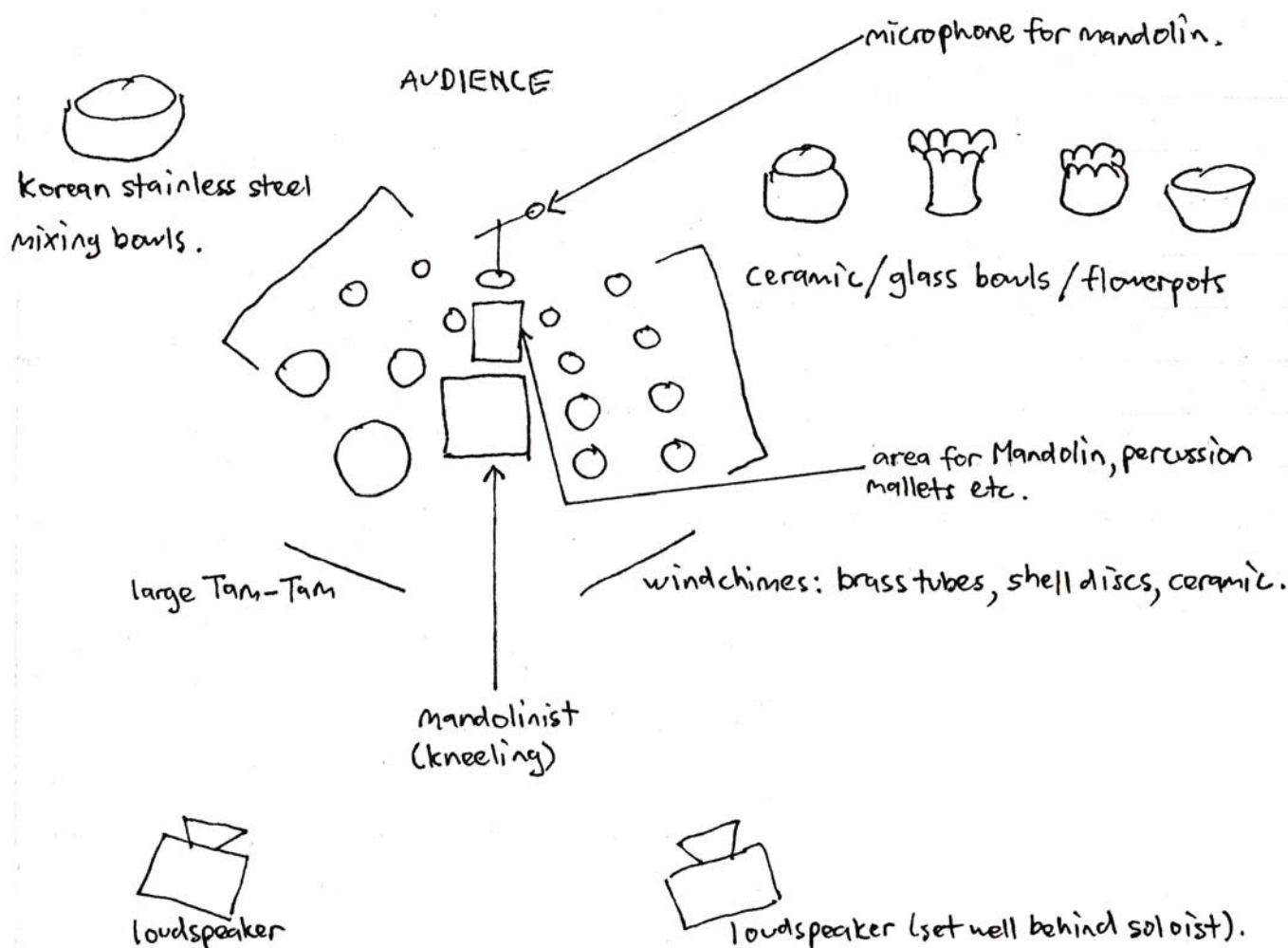
Introduction

I shall divide this seminar into two parts and leave time at the end for questions. In the first part, I will play recordings of two Australian pieces for instruments and tape [i.e., 'fixed media'], and in the second part we shall examine several recorder pieces – particularly the special playing-techniques they use. I shall end the seminar by playing a recording of one of my own compositions. Also, you will find a lot of printed information handed out as part of this seminar. This is all concerned with special recorder-playing techniques, and can be kept for perusal at your leisure; basic information is also included. There are also sheets that relate directly to recorder pieces presented during the seminar.

PART 1

Let me begin by playing to you a recording of my own recent piece called **Arcturus Timespace** (composed between December 1986 and May 1987). This piece is a response to my interest in astronomy and astrophysics. It attempts through its static nature to evoke the vastness and timelessness of infinite space. Even the structure of the piece relates to this idea, being cyclic, like a huge cosmic clockwork! The scoring is quite unusual: though the soloist is a mandolinist, he plays a number of other instruments. Here is the instrumental set-up:

(To the blackboard)








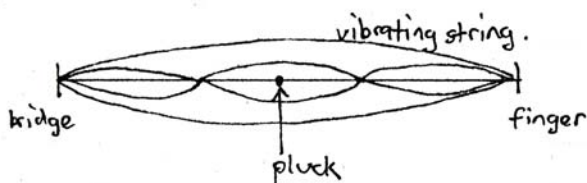
There is also a stereo tape [fixed media] part. This was generated by two Yamaha CX5M music

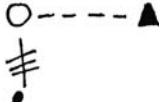
computers, which use Frequency Modulation (FM) sound-synthesis techniques. The sounds are quite percussive, and are intended to mix with and extend the 'live' sound.

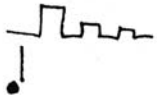
This piece has a visual element, as I also use slide-projection and background lighting. The slides consist of various astronomical objects. In many ways, the piece is very "Asian". The instrumental sounds themselves often invoke the Japanese *biwa*, *kōtō*, *rin* and *dōbachi* (these last two being Japanese temple bells). Also, the tam-tam is used in a structural manner deliberately like the largest gong in Indonesian *gamelan* music [as a colotomic device]. Some of these influences were conscious, others subconscious: I noticed how *biwa*- and *kōtō*-like the mandolin part was only when the piece was nearly finished! The instrumental array and action of the soloist is also very suggestive of Buddhist ritual. Before I play a recording of the piece, I would briefly like to show you some notations the piece employs. These may be useful to you:

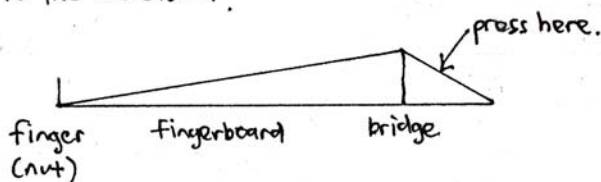
(To the blackboard)

- 1)  "molto sul ponticello": pluck very close to bridge (very sharp, pointed "▲" dense sound)
- 2)  "sul ponticello": pluck close to bridge (sharp, pointed "Δ" dense sound)
- 3)  normal
- 4)  "sul tastò": pluck further along the fingerboard (round, mellow, open sound "⊙")
- 5)  "molto sul tastò": pluck exactly halfway between left hand finger and bridge (12 frets higher). Only odd harmonics appear in the sound, as the plucking spot defines an antinode. Thus, the timbre is very mellow, round and clarinet-like. "○"



- 6)  transition from one plucking position to another in tremolo.

- 7)  press behind the bridge to raise the pitch ("kōtō technique"). Frequency and amplitude according to the waveform.



Here is the piece: I do hope you enjoy it!

(Play the tape recording – ca. 11½ minutes)

The next piece I wish to play for you is entitled **For Marimba and Tape** (composed in 1982). Its composer is Martin Wesley-Smith (b.1945). He teaches electronic music and composition at the New South Wales [now Sydney] Conservatorium of Music in Sydney, and his main interest is in (often highly political) audio-visual pieces using electronic music and computer-controlled slide projections. This piece exists in several versions, for different solo instruments plus tape. I am presently working on a version of this piece for amplified bass recorder and tape. The tape part was generated by a Fairlight CMI ("Computer Music Instrument"), a device which was designed, developed, and built in Sydney, Australia. Some of the sounds on the tape are synthesized, while others come from digital samples of a real marimba.

(Play the tape recording – ca. 11 minutes)

PART 2

Introduction

We have now arrived at the second part of the seminar, wherein we shall examine the modern playing-techniques used by several recorder compositions. Please have ready the sheets containing the technical data for these pieces that I have given you. I might point out at this stage that you will find *basic* technical information relating to the recorder, and often more detailed discussion of advanced techniques in the other printed materials [these being: Marilyn Carlson & Richard Jacoby: "Intonation", **American Recorder**, Vol.13 No.2, May 1972, pp.43–45; Bob Margolis (with hand-written annotations by Ian Shanahan): "A Composer's Guide to the Recorder", **American Recorder**, Vol.16 No.4, February 1976, pp.113–122]. Here, though, we are discussing only so-called advanced, "Avant-Garde" techniques in a rather cursory fashion. Depending upon time considerations, the techniques may only be demonstrated without further explanation, as you have explanatory information already written down. But at least you will be able to hear the sounds! I would also like to add that if you intend to compose a recorder piece using these techniques, you **MUST** collaborate with a player. No amount of technical information takes the place of a live performer: remember, you are writing for a recorder-*player* (and not, in a sense, the recorder), so you should exploit the player's strengths and be aware of their weaknesses and character or temperament. Furthermore, *all* players are different: what proves possible for one may be impossible for another. After the introduction and examination of each piece, I shall then perform it, so that you can hear the techniques with a musical context.

The first piece is by May Howlett, a Sydney-based composer and committee member of the Fellowship of Australian Composers. Her little composition is called **Shan-Ti**, and it is scored for solo alto recorder. It was written just last month for me to present at the Asian Composers' Forum, so that today's performance is actually a world première! The composer has tried to evoke a deliberately 'primitive' atmosphere. Let's have a look at it:

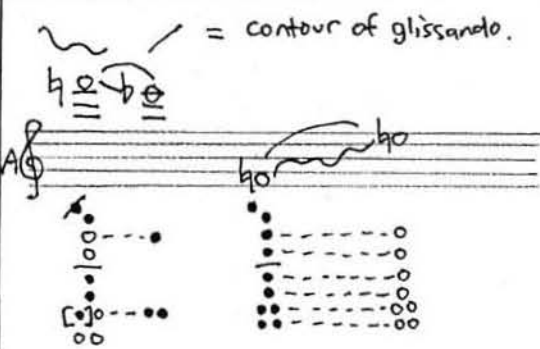
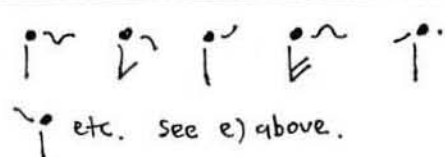



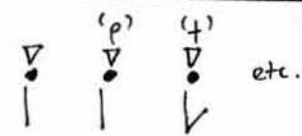
(See the accompanying sheets; perform the piece – ca. 2–3 minutes)

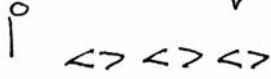
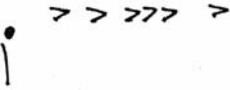
ASIAN COMPOSERS' FORUM IN SENDAI 1987: SEMINAR C, 19/9/1987. Ian Shanahan.

NOTES TO ACCOMPANY RECORDER COMPOSITIONS.

1) May Howlett: Shan-Ti (1987). Alto Recorder Solo. [World Première].

Name of technique.	Suggested notation / Examples.	Comments.
a) Dynamic variety by fingering adjustment.	<p>normal fingering.</p> <p>ppp pp p mp mf f</p> <p>All mf → microtones. Supply all fingerings.</p>	<p>By adjusting fingerings with variations in breath pressure, a constant pitch results with different dynamics. If breath pressure is constant, microtones will result. See printed material (particularly "Intonation").</p>
b) High notes.	<p>Normal notation. Fingering should be given; Δ = "any very high note" or ∇ = "the highest note".</p>	<p>See printed material for comments and fingerings.</p>
c) Undertones.	<p>V = undertone (pp)</p> <p>normal fingering.</p> <p>mf [mp]</p> <p>Fingering ought to be included.</p>	<p>For notes <u>above</u> the 1st register, if some fingerholes are closed, a soft, foggy, hollow pitch in the 1st register ("undertone") also appears. This pitch corresponds to the ordinary 1st register pitch of the fingering. The overall quality is one of coarseness and the higher pitch will be louder than usual. The phenomenon is related to a certain class of multiphonic, but is <u>not</u> a multiphonic itself.</p>
d) "Clicky" trills and tremolos.	<p>tr (•) ↑ triangle waveform: contour shows frequency and amplitude of action.</p> <p>(•) = secondary note.</p> <p>tr (b•)</p> <p>tr (b•)</p> <p>Fingering must be included.</p>	<p>Any trill or tremolo for which one of the pitches lies in a different register will be "clicky". In the example, the upper pitches belong to the <u>second</u> register for the given fingering and the lower pitches belong to the <u>first</u> register. See printed material also.</p>

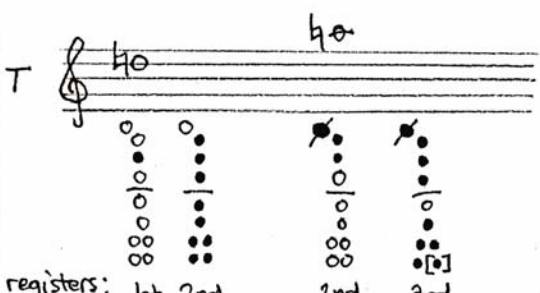
Name of technique.	Suggested notation/Example(s).	Comments.
e) Fingered Glissando.	 <p>Fingerings should be given.</p>	<p>A perfectly smooth fingered glissando is possible between any two pitches of the same register (as determined by the fingering). If a register break is crossed, a discontinuity will occur at the break. The fingers slide off/onto the fingerholes. Note: if the slur is omitted (ie. <u>non</u>-legato), the second pitch is articulated. See printed material also.</p>
f) Fingered Pitch Bend.	 <p>etc. see e) above.</p>	<p>As above in e), but the intervals are smaller or indeterminate.</p>
g) Fluttersong.	<p>Aflz.  = Alveolar ("tongued") flutter. [speed is variable]</p> <p>Uflz.  = Uvular ("throat") flutter. [speed is variable]</p> <p>Speed of fluttersong is variable. [notation?]</p>	<p>Alveolar ("tongued") flutter: fluttering the tip of the tongue against the roof of the mouth (rolled 'r': "rrrrrr"). Uvular ("throat") flutter: gargling action in the back of the throat. See printed material. Note: flutter speed variable</p>
h) Tongue Tremolo and Multiple Tonguing.	<p>Ztrem  = Tongue Tremolo (German "Zunge" = tongue).</p> <p>Multiple Tonguing: normal notation with phoneme given.</p>	<p>Often, the articulation 'di di' is used, reiterated as quickly as possible independently of fingering. (The speed may be varied). Note: tongue tremolo may be rapidly alternated with fluttersong [notation?]. 'di di' may be used in ordinary double-tonguing and 'di di di' in triple-tonguing. (The vowel 'i' may be changed). Many other articulations are possible for multiple tonguing: here the tongue is always coordinated with the fingers. See printed material.</p>
i) Sputato. ("spitting" articulation). Also called "pizzicato".	 <p>V = sputato. 'p', 't' etc. define attack phoneme, if desired.</p>	<p>Transient noises are caused by a strong articulation ("sputato"), giving a "woody" sound of very short duration. Intensity of attack may be varied (indicated by dynamic and phoneme). 1st register notes are briefly overblown. See printed material.</p>

Name of technique.	Suggested notation/Example(s).	Comments.
j) Diaphragmatic Thrust.	<p>'h' 'h' 'h'</p>  <p>'h' = phoneme (aspirant). 'h' = strong thrust (∇: see above). <> = dynamic. ALTERNATIVE:  > = accent.</p>	<p>Strong jolt of air caused by the diaphragm "pushing" the sound. An overblown sound similar to "sputato" (see above) may result and/or the pitch may rise and/or a multiphonic may occur according to the fingering and register. The diaphragmatic thrust is a sudden increase and return of breath pressure levels: it overlaps with several other techniques. See printed material.</p>

My next piece for you is called **Meditation** (composed in 1976) by Ros Bandt, another lady composer, from Melbourne, Australia. She is also a recorder-player. Ros is very interested in music, sound-sculptures, and meditation – so it is only natural that she is fascinated by the Japanese *shakuhachi*. In fact, this piece is scored for *shakuhachi*, flute, or alto recorder. However, I play the piece on the *tenor* recorder, because it seems to evoke the *shakuhachi* sound better than the alto-sized recorder. The score, as provided by the composer, is actually very simple and sparse (probably in order to encourage improvisation). I have elaborated it and made it more intricate by imposing many contemporary recorder-playing techniques (which I think may also be common to the *shakuhachi*). Now to the techniques themselves:

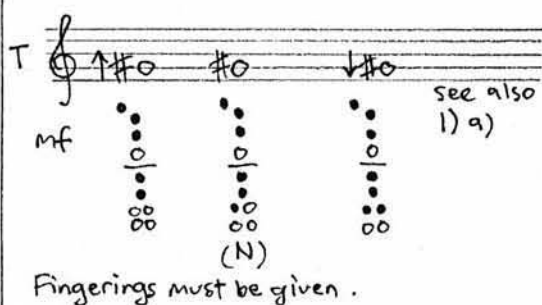
(See the accompanying sheets; perform the piece – ca. 4–5 minutes)

2) Ros Bandt: Meditation (1976). Tenor Recorder Solo.

Name of technique.	Suggested notation/Example(s).	Comments.
a) Alternative Fingering (same pitch, different register).	<p>Normal notation:</p>  <p>registers: 1st 2nd 2nd 3rd</p> <p>* = normal fingering (can also use N = normal fingering) Fingering should be given.</p>	<p>Creates a different timbre on the same pitch (relates to so-called "Klangfarbenvibrato"). This technique shows that recorder registers may be overlapped: the technique is only possible in the interval common to both registers. See printed material.</p>

b) Microtones.

↑ \sharp ↓ \sharp ↑ \flat etc. ↓ = less than a $\frac{1}{4}$ tone down etc.

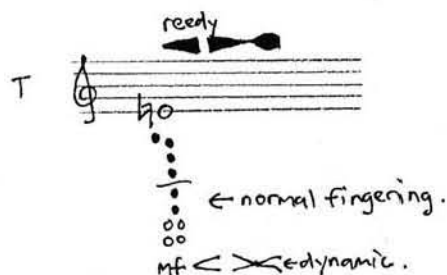


Fingerings must be given.

The recorder is incredibly rich in microtonal possibilities. Virtually any scale is possible. The technique is difficult in the lowest m. 3rd of the instrument.

See printed material.

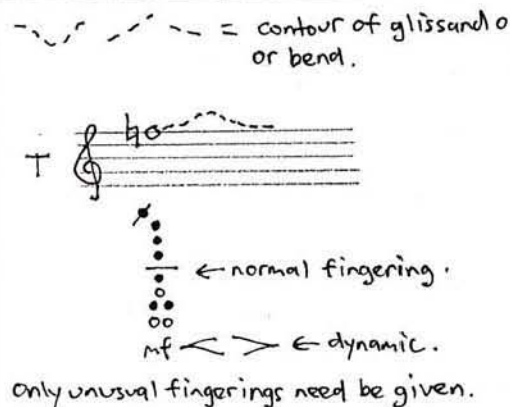
c) Reedy Sounds.



Fingerings must be given.

With certain 1st register pitches and fingerings, an increase in breath pressure does NOT cause the pitch to rise (as is usual), but instead a sound merely richer in harmonics occurs ("reedy" sound). This is particularly effective on the lowest notes of the Bass Recorder.

d) Breath Pressure Glissando.



only unusual fingerings need be given.

Variations of [timbre and] pitch (up to about a m. 3rd) corresponding to variations of breath pressure (and dynamic) will occur for many fingerings and pitches. The upper 1st register and lower 2nd register are particularly susceptible to this.

See printed material.

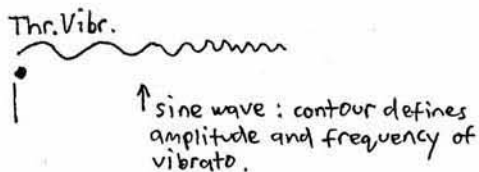
When the breath pressure here is maximized; the resulting pitch often acquires a particularly "breathy" quality.

Name of technique.

Suggested notation / Example(s).

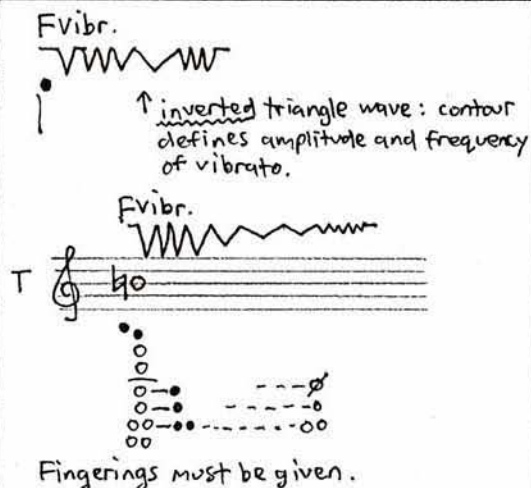
Comments.

e) Throat (breath) Vibrato.



Closely related to d) above. Modulation of air-flow by throat and diaphragm. See printed material.

f) Finger Vibrato ("flattement")



(French) Baroque recorder technique. It is really a microtonal trill, the secondary note always being flatter in pitch than the main note. Usually (but not always) fingers are added below the closed fingerholes. It is not widely known that the amplitude may be continuously varied by progressively changing the action of the trilling finger(s). In some cases, timbral variation may also occur. See printed material.

g) Bell Vibrato.

Bvibr.

□ in tablature = end of bore (bell).

Bvibr.

h₀

T

h₀ h₀ h₀ h₀

□-■ (r.h.) □-■ (r.h.) ■-□ (r.h.) □-■ (leg.)

Fingering must be given.

Similar to Finger Vibrato, though the resultant sound is less generalizable than usual with this technique: eg. above the 1st register, the pitch may rise! If the fingering is for the left hand only, the right hand {palm index finger} may be used for the trilling action. For the sound to be classified as a "Bell vibrato", pitch-change should be minimal with timbral modulation being the main feature. Again, the amplitude may be varied (as above). When no hand is free to manipulate the bell, one's knee, thigh or calf muscle may be used (for recorders without a bell key: few have it); bell keys are very rare.

h) Sibilant attack.

('s') ('sh') etc.

The phoneme 's' or 'sh' is used to attack the note. (These may also be used to sustain or release the note.) This articulation is difficult to use on high pitches. See printed material.

i) Lip attack.

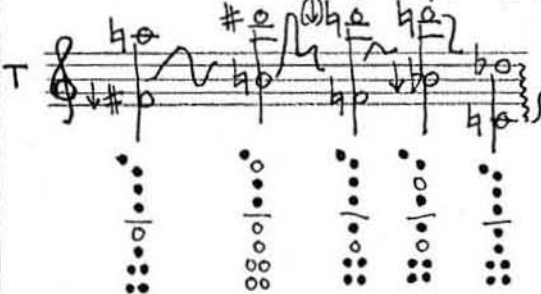
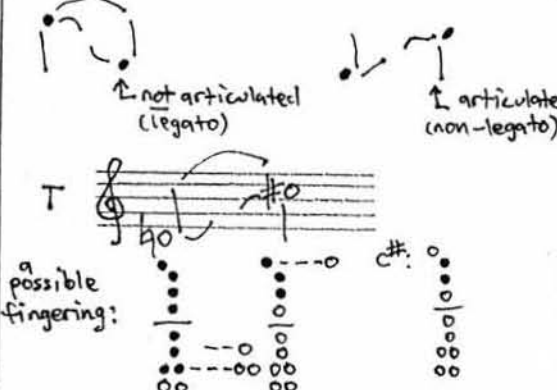
('p') ('b') ('m') ('w')

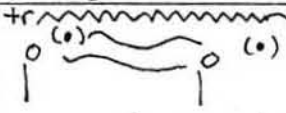
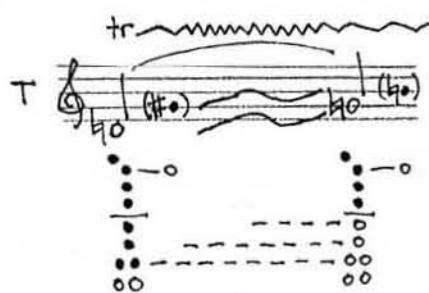


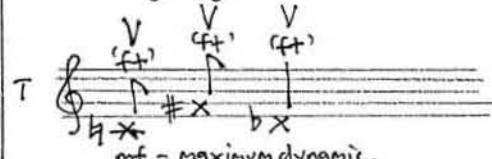

The phoneme 'p', 'b', 'm' or 'w' is used to attack the note. (These may also be used to release the note.) This articulation may be used in all registers of the recorder. See printed material.



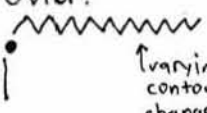
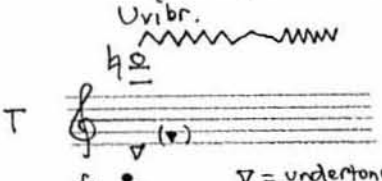
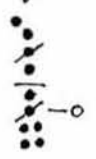
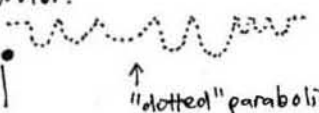
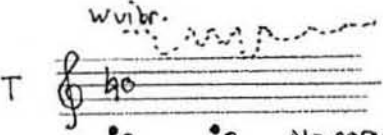
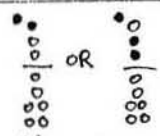
My third offering (also for solo tenor recorder – composed in 1986) is called **The Sign of the Four**, a rather curious title, originating with Sir Arthur Conan Doyle. It refers to a "Sherlock Holmes" story which the piece follows in a kind of 'musical code'. It uses many of the modern techniques: too many, in fact. Unfortunately, I find the piece to be a little boring. I am presenting to you a cassette recording of the piece that I made earlier this year under the direction of its composer. I hope you find it interesting, at least for didactic reasons. The composer of **The Sign of the Four** is Jana Skarecky, a Canadian composer who was undertaking postgraduate studies at the University of Sydney but is now living back in Canada. Now we shall look at her piece:

(See the accompanying sheets; play the cassette recording – ca. 11 minutes)

3) Jana Skarecky: The Sign of the Four (1986). Tenor Recorder Solo.

Name of technique.	Suggested notation / Example(s).	Comments.
a) Multiphonics.	<p>• = Normal multiphonic (given pitches being the most prominent; constant spectrum)</p> <p>{ } = the presence of beats (amplitude modulation below c. 25 Hz).</p> <p>high note only. low note only. = contour for spectral glissando.</p> <p>tremolo is possible.</p>  <p>Fingerings must always be given.</p>	<p>This is an extremely complex and extensive technical area, discussed in detail in the printed material. Further multiphonic techniques involving trills/tremolos and/or glissandi/bends are also discussed there.</p> <p><u>SPECTRAL GLISSANDO</u>: breath pressure during the production of the multiphonic changes according to the contour (which approximately corresponds to dynamic level), giving various proportions of upper and lower note; limits to the spectrum are lower note only and upper note only (as in final example on the left).</p> <p>Note: multiphonics may also be obtained when the end of the bore (bell) is blocked: ■.</p>
b) Combined Vocal and Instrumental Tone.	<p><u>Specific</u> pitches: notate vocal part on second (lower) staff. Articulation phonemes and vowel sounds may be added as desired.</p> <p><u>Non-specific</u> pitches: one can use an approximate vocal contour [~~~~~] or</p> <p>• = indeterminate hummed [M: "mhm"] pitch added to instrumental tone.</p>	<p>This is an extremely complex and extensive technical area, discussed in detail in the printed material. Further techniques such as <u>unison singing + playing</u> (vocal coloration of instrumental tone) and beats (slow amplitude modulations generated by slight mistuning of sung and played tones) are also discussed there.</p>
c) Portamento.	 <p>Fingerings may be provided, if desired. Fingerings should be provided if the portamento crosses a register break.</p>	<p>A "gapped" discontinuous glissando. The contour of the glissando, position and approximate size of discontinuity is given. The beginnings/ends of the smooth bends should not be too conspicuous, so as to give the impression of overall continuity. (see printed material).</p> <p>Note: the technique is useful for "faking" a smooth glissando across a register break.</p>

Name of technique.	Suggested notation / Examples.	Comments.
d) Trill or Tremolo glissando.	<p>tr </p> <p>~ = glissando contour. Two contours are given indicating that both main and secondary note slide; "secondary note" gliss. is to some extent independent of primary gliss. : vary action of trilling finger(s) (difficult [?] in this context).</p> <p></p> <p>Fingerings must be provided.</p>	<p>Same constraints as for glissando [1) e)]: all pitches involved are confined to the same register. Fingerings should be practical. It is easier if the same finger(s) carry out the trilling action throughout, though this is not obligatory. Trill/tremolo bends and portamento are also available [see 1) f) and 3) c)]. (see printed material).</p>
e) Fade in or Fade out of Fluttertonguing	<p>Af12.  = fade (alveolar) flutter out.</p> <p>Uf12.  = fade (uvular) flutter in.</p> <p>Possible notation for varying flutter speed:</p> <p>Af12. = decrease flutter speed. (see 1) g)).</p> <p>Uf12. } combinable with above = increase flutter speed. fade in/out notation.</p>	<p>Ability to execute the technique varies from player to player. It should be possible with either type of fluttertonguing (alveolar or uvular; see 1) g)). (see also printed material). It may be possible to vary the speed of the flutter in this context.</p>
f) Inhaled Slap tongue.	<p>V = inhale (c.f. "upbow" of bowed strings)</p> <p>(ft) = approximate articulation phoneme (more specific one from International Phonetic Alphabet?)</p> <p>x = pitch of resultant note / 1st register fingering.</p> <p></p> <p>mf = maximum dynamic.</p> <p>The above notation implies an initial pure breath sonority "as short as possible". For a sustained initial pure breath sonority, use the notation of 6) h): ϕ, ϕ, ϕ etc. Only unusual fingerings need be given.</p> <p>(*) Notation as of September 1988: </p>	<p>This is a technique developed by Ian Shanahan. Mouth position is as in forming 'ffff' [fricative] but instead one inhales. With the tongue relaxed, quickly stop the air with the tongue-tip against the teeth. The resultant sound should be like a "pop" or "thud", with the pitch being the same as the 1st register note of the fingering. The technique applies only to the 1st register of the recorder. Note the initial "pure breath sonority"; this may be prolonged as desired. The slap tongue resonance is actually quite short in duration: envelope (and timbre) similar to "fingerslapping" without blowing (see 6) j)), hence similar notation (x).</p>

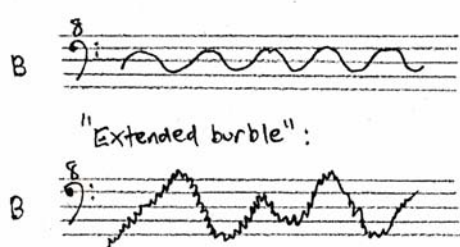
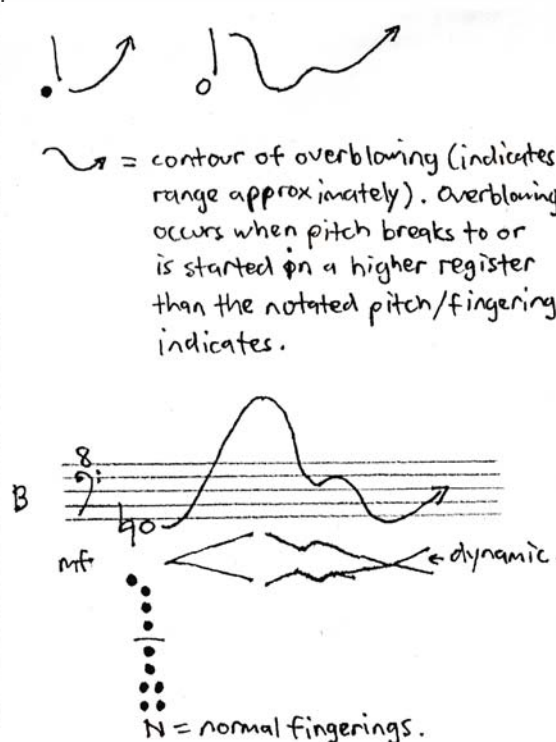
Name of technique.	Suggested notation/Example(s).	Comments.
g) Inhaled Slap-tongue into the window (covered by lips).	 = lips closed over window (place this symbol above staff) other notations as in f) above, except: X = 1st register fingering (≠ pitch of resultant note: see comments). Only unusual fingerings need be given.	The above comments in f) apply precisely, except that the resultant pitch of slap-tongue resonance is about a m. 7th lower than the 1st register note of the fingering. The slap-tongue resonance here can be made louder: up to about f (mf+?).
h) Tongue Vibrato.	Zvibr.  ↑ loop wave: contour defines amplitude [intensity of the generating phoneme] and frequency of vibrato. 'l' = generating phoneme of the tongue vibrato ('lalalala...'). Note: German "Zunge" = tongue, hence Zvibr.	This vibrato type is quite subtle. Other phonemes such as 'y', 'r', 's', 'sh' may also be used (sibilants -'s' and 'sh'- are very effective in tongue vibrato, but have been neglected completely). Note: the limitations of such articulations would then also apply to the tongue vibrato generated by them. See printed material also.
i) Undertone Vibrato.	Uvibr.  ↑ varying the amplitude of the contour could indicate interval changes between primary and secondary undertones. Uvibr.  T f  ∇ = undertone. In this example, pitches of undertones are approximate (according to exact amount of ventage in fingering: more ventage gives higher-pitched undertones). Fingering must be provided.	See also 1) c), 2) f) and 2) g). The amplitude of the vibrato here is constant: by varying the action of the trilling finger(s) only the <u>pitch</u> of the <u>pitch's</u> <u>main</u> (primary) <u>undertone</u> changes. The technique itself involves the alternation of 1st register pitches of the given fingerings ("undertones" - soft, foggy, hollow timbre [see 1) c]) while the high pitch is sustained with a shimmering sound. This is <u>not</u> to be confused with multiphonics, though undertones and multiphonics are closely related.
j) Window Vibrato.	Wvibr.  ↑ "dotted" parabolic wave: contour defines amplitude and frequency of vibrato. Dots are used in contour by analogy with "gliss-ando generated by window manipulation" [a technique not discussed in this seminar]. Wvibr.  T  N = normal fingering. Only unusual fingerings need be given.	Applies to fingerings utilizing the <u>left hand</u> only: the right hand is waved over the window. The pitch is <u>flattened</u> only and the closer the hand is to the window, the flatter ^{the} pitch (up to a maximum of about a m. 3rd below fingered pitch). The sound is reminiscent of a "musical saw" or "flexatone". The "average" pitch of the vibrato is usually or frequently perceived to be a little below the normal pitch. See printed material also.

We now have another world première, a piece for bass recorder and live electronics. I won't go into details now about the electronic set-up, as that will be clear enough when you hear the piece. The sound is sometimes modified by a Digital-Delay Unit (DDL). The name of the piece is **Pipistrelli gialli**, Italian for "yellow bats" – another weird title. The sounds the piece makes evoke the fluttering and chirping of bats, as well as their eeriness very well, in my opinion. It was composed by Benjamin Thorn, a Sydney-based composer and recorder-player. You will hear the extensive use the piece makes of multiphonics, "sputato" articulation and overblowing – a characteristic of this composer's style. I shall examine this piece only briefly before performing it:

(See the accompanying sheets; perform the piece – ca. 8 minutes?)

4) Benjamin Thorn: Pipistrelli gialli (1985). Bass Recorder and live electronics.

[world première.]

Name of technique.	Suggested notation/Example(s).	Comments.
a) "Burbles".	 <p>"Extended burble":</p>	An aleatoric technique. Place the thumb on the thumbhole and move the other fingers over the holes so that "burbles" roughly in the range indicated sound (<u>1st register only</u>). Rhythm is not indicated and is therefore free, though the contour could suggest speed. "Extended burble" over range indicated = fingers trilling and/or sliding over given extended range.
b) overblowing.	 <p>! = contour of overblowing (indicates range approximately). Overblowing occurs when pitch breaks to or is started in a higher register than the notated pitch/fingering indicates.</p> <p>N = normal fingerings.</p> <p>Only unusual fingerings need be given.</p>	This technique is closely related to both multiphonics and "sputato" (and diaphragmatic thrust). Many transient multiphonics/reedy sounds/undertones/whistle tones/high pitches/noises will appear when overblowing occurs. The technique is very effective on bass (and tenor) recorders: it works on the smaller sizes too. The contour relates directly to <u>breath pressure</u> and dynamic. The technique may be combined with many other techniques (<u>this remark applies to most techniques surveyed in this seminar</u>) eg. overblowing + flutertonguing/tongue tremolo/sung tone/vibrato etc. etc. See printed material. Note: highest possible pitches caused by overblowing may need strong articulation!

I will diverge a little from the pattern now and play a cassette tape recording of a brilliant recorder piece for you, without looking at it in detail. It is called **Research 12/84 Dream**

(composed in 1985) for solo tenor recorder by the Canadian composer and recorder-player Peter Hannan, who plays the piece here. Briefly, it is an amazing study in "sputato" articulation and polyphony generated by multiphonics. I hope you enjoy it as much as I do:

(See the accompanying sheets; play the cassette recording – ca.10 minutes)

5) Peter Hannan: RSRCH 12/84 Dream (1985). Tenor Recorder Solo.

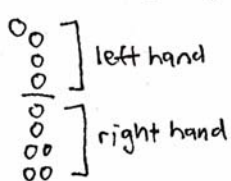
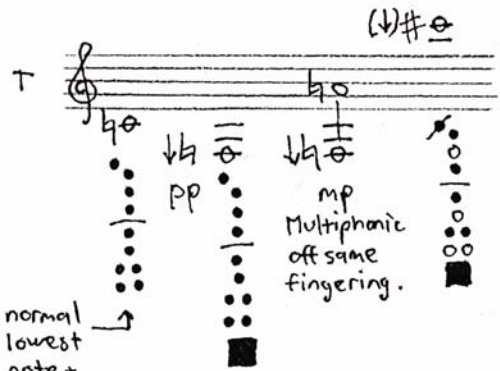
A brilliant study in "sputato"/overblowing and polyphony generated by multiphonics.

Score unavailable at present for this seminar; tape recording only (Tenor Recorder: Peter Hannan).

My last recorder piece for you is titled **Stopping by Woods on a Snowy Evening** (composed in 1985), again for solo tenor recorder. The piece's name is taken from a poem of the same name by the American poet Robert Frost. Its composer is Neil Currie, also from Sydney. He is an expatriate Canadian studying at the University of Sydney where he wrote the piece for me. This composition uses a multitude of recent playing techniques which we shall now examine:

(See the accompanying sheets; perform the piece – ca.10 minutes)

6) Neil Currie: Stopping by Woods on a Snowy Evening (1985). Tenor Recorder Solo.

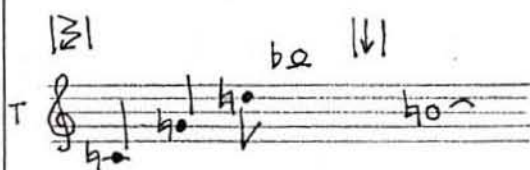
Name of technique.	Suggested notation / Example(s).	Comments.
a) Blocking the end of the bore (bell).	<p>In the fingering tablature:</p>  <p>■ = block end of bore (airtight). □ = open end of bore.</p>  <p>normal lowest note + fingering.</p> <p>Fingerings must always be specified.</p>	<p>This radically changes the acoustical nature of the instrument and yields a very wide variety of sonorities: eg. high notes, extended low register, timbral changes, multiphonics etc. etc. It is a useful technique in a wide variety of contexts and ought to be regarded as being a standard technique. The end of the bore should be blocked airtight (with finger, palm of hand [one-handed fingerings] or calf muscle/thigh/knee according to circumstances). On the tenor recorder, due to the length of the instrument the calf muscle of the leg must be used, so player is seated with crossed legs! A very few recorders have a bell key, but this is a disadvantage in many circumstances: eg. "shaded" bell impossible. See printed material.</p>

b) Blowing air into the windway at an angle.

$\left| \begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix} \right|$ = blow air into windway at an angle.

This mode of playing is cancelled by :

$\left| \begin{smallmatrix} \downarrow \\ \downarrow \end{smallmatrix} \right|$ = normal blowing technique.



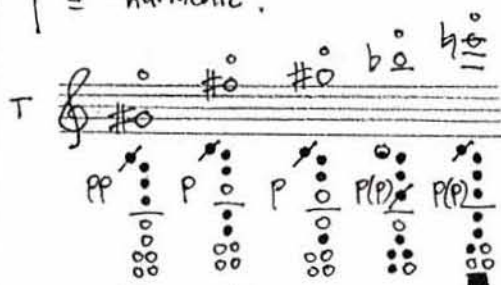
Special fingerings only need be given.

The recorder is held somewhat like a flute (approximately 45° angle). The air "bounces around" in the windway modifying the timbre: a foggy, hollow, distant timbre of variable "breathiness" results. In the 1st register, the amount of "breathiness" is highly variable, with a range from no "breathiness" to the breath sonority dominating the overall sound. Above the 1st register, some breath sonority will always be present. Notation of "breathiness" and further discussion: see printed material.

c) Soft alternative fingerings.

Normal notation, or

\circ = "harmonic".



Fingerings must be given.

The term "harmonics" is suggestive of the timbre, but is often acoustically incorrect. Careful, very gentle articulation and blowing may be necessary to produce the note clearly. See printed material for further details.

Name of technique.

Suggested notation/Example(s).

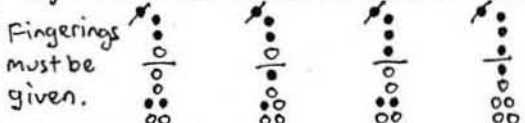
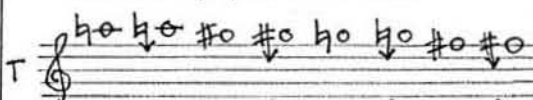
Comments.

d) Quartertones.

$\sharp \flat \sharp \flat$ = $\frac{1}{4}$ tone higher than the usual accidental.

$\flat \sharp \flat \sharp$ = $\frac{1}{4}$ tone lower than the usual accidental.

See also 2) b) [Microtones].

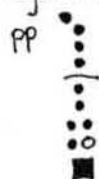
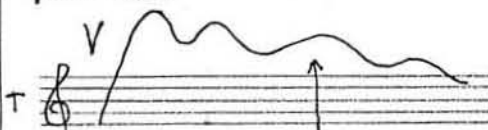


Fingerings must be given.

This is a very complex technical area: see printed material and comments to 2) b). Quartertones are available throughout the range of the recorder. Note: "spelling" of quartertone accidentals should be logical, for ease of reading.

e) Inhaled "Harmonic" Arpeggio.

V = inhale.




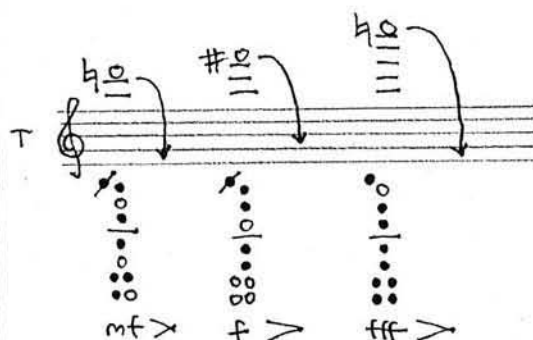
approximate pitch contour: more specific pitches may be given, if desired.

Fingering must be given.

(Normal playing position). When inhaling with the given fingering, very soft, "windy" and "distant" pitches (like a violin harmonic arpeggio) appear. The pitch is determined by how hard one inhales: the harder the inhalation, the higher the pitch. Some breath sonority will always be present. It may be necessary to silently EXHALE (notation: \sqcap = exhale [c.f. "downbow" of bowed strings]) prior to executing the technique, so that the duration of the sound is sufficiently lengthy!


f) "Fall-off".

 = "fall-off".



Fingerings should be given, particularly unusual ones.

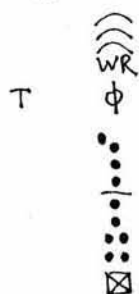
The technique is closely related to breath pressure glissando, overblowing and multiphonics. Decrease the breath pressure without changing the fingering, allowing the note to break or fall downwards: actually, the technique is the exact reversal of overblowing. Breath pressure directly corresponds to dynamic (and pitch). The contour indicates the approximate amount of "fall-off". Note that the pitch may fall through a multiphonic (with spectral glissando - see 3) a)). Clearly, the initial pitch/fingering must be above the 1st register. The technique combines in an obvious manner with overblowing (see contours of 4) b)). The duration of the note indicates the duration and rate of "fall-off". See printed material also. Note: the higher the note, the more complex the "fall-off", usually: discontinuities/breaks are normal.

Name of technique.	Suggested notation/Examples.	Comments.
g) Random, Rapid Pitches.		<p>Another aleatoric technique, introduced in 1968 by Makoto Shinohara and now very well-known (particularly in Japanese recorder pieces). Very fast, irregular variations of pitch (very approximately as shown) and dynamic produced by very fast, independently executed (random) finger movement and double-tonguing/tongue tremolo (often "as fast as possible") with very fast, irregular (random) changes of breath pressure. It is often desirable to add a vocal tone in a random manner. Usually, all kinds of transient overblowing/"sputato"/multiphonic sounds/noises etc. occur as highly unpredictable phenomena. See printed material also.</p>

h) White Noise
(German:
"Weisses
Rauschen").
sometimes
called
"Wind Rush".

ϕ, ϕ, ϕ, ϕ etc. = "pure breath sonority"
of given duration.

$\overline{\overline{WR}}$ = "white noise".



\boxtimes = cover the end of the bore (bell) with
porous cloth (not airtight).

Fingering must be given. A breath pressure
contour may also be provided.

A "pure breath sonority": very wind-like;
wind sound only. The bell is usually covered
with cloth. The timbre varies with breath
pressure: high breath pressure gives an
intense pure breath sonority with many high
frequencies. (With breath pressure variation
here, the recorder acts like a "band pass
filter" acting on white noise (or whatever)).
Sometimes (depending upon breath pressure
and fingering), distinct pitches may be
heard. These are quite high and occur
particularly in lower breath pressure. See
printed material also.

i) Blowing air
into the
window
(with rapid
finger
movement).

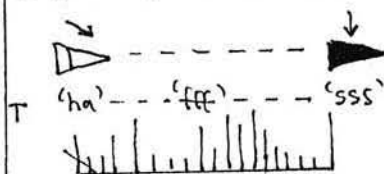
$\downarrow \searrow$ = angle of blowing.

\triangle = window open.

\blacktriangle = window covered over by lips.

'ha', 'fff', 'sss' = phonemes utilized.

[Rapid finger movement: see above b) g)]



Another "pure breath sonority". The
spectrum and/or pitch of the breath
sonority (if audible) changes with the
transition of actions (and also with the
finger movement). The phenomena
(pitches, timbres etc.) involved are too
complex to be examined here in detail:
see printed material.

Name of
technique.

Suggested notation / Examples

Comments.

j) Fingerslapping.
(also called
"beating
the
fingerhole").

\times = Fingerslapping (no blowing);
resultant pitch indicated.

\bullet = Fingerslapping in addition to normal
blown [played] note.

$\begin{matrix} \bullet & \bullet & \times \\ \bullet & \bullet & \times \\ \bullet & \bullet & \times \\ \bullet & \bullet & \times \end{matrix}$: \times (or \times 's) in tablature
indicates the finger(s)
which create the percussive
sonority, i.e. the "slapping
fingers".



Fingering should be provided as needed,
according to the context.

A pitched percussive sonority. The
technical considerations are very detailed
and complex: see printed material. The
finger (or fingers) is slapped down hard
onto the fingerhole (violence of slap being
determined by dynamic). The technique
can be used in a multitude of contexts:
eg. trills/tremolos; with breath sonorities
and many (any) other techniques etc.
Fingerslapping usually (but by no means
always) gives a short, popping sound/pitch
in the 1st register corresponding to the
fingering.

END .

Without further ado, I would like to conclude this seminar by playing a tape recording of my own composition **Echoes/Fantasies**, for bass clarinet, vibraphone and tubular bells. It was written in 1984. I won't say any more about it now, except to observe that it is very "Australian" yet also very "Asian" – and therefore eminently suits the purpose of this forum. [END]

*(Programme notes for **Echoes/Fantasies** are obtainable from Mr Miyagi, and I can supply an analysis of the piece upon request.)*

(Play the tape recording – ca.8 minutes)

I now invite questions and comments.

~~~~~

# INTONATION

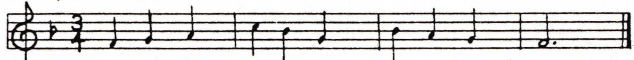
By MARILYN CARLSON and RICHARD JACOBY

Recorders can be played in tune! As with any wind instrument, it is the task of the performer to produce good intonation. While all recorders have intonation problems, such problems are fewer and less significant with a good quality instrument. It is our feeling that most recorder players can greatly improve their intonation with regular, directed practice. The basic necessities for playing in tune include (1) a good instrument, (2) ear training, (3) awareness of the intonation problems of your instrument and (4) application of technics to solve these problems.

Prime consideration must be given to training your ear. While everyone hears, few really listen. Listening demands concentration, which brings about increased pitch discrimination. You as a performer must learn to "hear with your eyes" and "see with your ears."

To "hear with your eyes" you must be able to look at a melodic line and mentally sing it. You may select any pitch as the starting note. For example: Can you, without playing your recorder, "hear" the following melodies? (Also try singing these aloud.)

Example No. I.



Example No. II.



The value of this concept is realized when applied to your playing. You should "mentally sing" all melodic lines as you play.

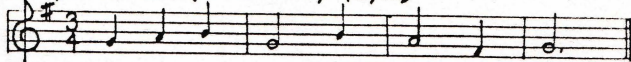
When listening to a melody, you can "see with your ears" by arbitrarily selecting a starting note and attempting to visualize the notation. While it is unimportant as to whether you choose the actual starting note played, it is essential that successive melodic intervals be correct. For instance, if someone plays the following melody (Example III) —

Richard Jacoby attended the University of South Dakota, received his Master of Music Education degree at the University of Illinois and has done additional graduate study at Washington University, St. Louis, Missouri. He is currently Director of Bands and Conductor of the Symphony Band and Wind Ensemble at Kent State University.

Marilyn Carlson attended Stephens College and the University of Missouri and is presently completing a degree at Kent State University. She is a Certified American Recorder Society Teacher and teaches recorder at Cleveland State University with the Collegium Musicum.

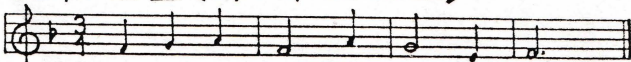
Mrs. Carlson and Mr. Jacoby have been on the faculty of many early music workshops and perform extensively.

Example No. III. (actual melody played)



You might select F as the starting note and proceed with the melody as in Example IV.

Example No. IV. (as you may have visualized)



If you visualized the melody as shown in Example IV, you have heard the correct melodic line based on F as the starting note. Do realize that you could have selected any pitch as the starting note.

## Applied Technics

Warm your instrument before playing by holding the headjoint with both hands for a few minutes. Although this is a necessity to prevent damage to the windway, our point is that to maintain a consistent pitch level the recorder must be thoroughly warm. Since sound travels faster through warm air, slower through cold air, a cold wind instrument plays flat.

Pulling the headjoint lowers the basic pitch, and the larger the instrument the more you must pull. Do be aware that pulling the headjoint too far creates other intonation problems. On many instruments the lowest notes tend to be sharp — these notes can be lowered by pulling the footjoint.

When tuning to a keyboard instrument, it is essential that you (1) check more than one note, (2) avoid tuning on known problem notes and (3) play *your* tuning note first, otherwise you may unconsciously accommodate and not make an accurate judgment of the pitch of your recorder. If you find that in general you are sharp, pull the headjoint. The main object here is to adjust the basic pitch level. Occasionally you will find that a harpsichord is above A-440. Although you may be able to reach this pitch level with increased breath pressure, your tone quality will probably become strident. Under these circumstances, the harpsichord should be retuned.

When a consort tunes, it is necessary to tune to the lowest pitched instrument. A good practice to follow when tuning is to play slow scales. (C instruments playing a descending C scale; F instruments, a descending F scale.) The examples in the ear training section of this article provide additional material suitable for determining a basic pitch level. After establishing a com-

mon pitch level with this initial phase of tuning, specific intonation problems should be taken care of on an individual basis with technics described below.

The pitfall of this phase of tuning is that, once completed, some players believe their intonation problems are over. In reality all you can accomplish with this is to arrive at a common pitch level.

# Ear Training

Exercises of the following type should become a part of your warmup at each rehearsal or performance. Examples V, VI, and VII, which are intended only to serve as guides, will allow you to concentrate on intonation.

Example No. V. (REMAIN CONSTANT) (LISTEN) (MATCH) ETC. ....

1. Complete this scale, ascending and descending, in a similar manner.
2. Repeat in the following keys: C, F, G, D, B flat.

Example No. VI.

1. Complete this scale in a similar manner, ascending and descending.
2. Listen closely for in-tune thirds.
3. Switch parts.
4. Repeat this exercise in all keys common to the recorder literature.

(If these intervals do not sound in tune, the person playing Part I should sing his part — then match that pitch on the recorder.) Create similar exercises of your own.

Example No. VII.

The octave in which you sing is of no significance. When singing, adjust your line to be in tune with the recorder; when playing, *mentally sing* your part. This concentrated listening *must* be carried over into all of your playing.

# Basic and Alternate Fingerings

Good intonation requires a selective set of basic fingerings. Do not rely entirely on one fingering chart. You must select the best fingerings for each of your instruments. Notes that require considerable change from the usual basic fingering will become obvious with concentrated listening to slow scales. For a note that requires a better fingering, consult several charts for other possibilities. Should this not suffice, experiment with various fingerings based on the following: To lower the pitch, cover one or more of the tone holes below the last covered hole. To lower F on a treble recorder:

Example VIII.

More fingers added = lower pitch.

Example IX.

Added fingers closest to basic fingering = lowest pitch.

Should you have a note that you feel needs to be raised by re-fingering, we suggest you consult a performer/teacher. The infrequency and the individual nature of this problem make it impractical for us to pursue in this article.

Do not consider your selections to be "alternate fingerings." Be prudent in selecting these fingerings or you may create technical problems.

For reasons of facility and ornamentation, it is often necessary to use alternates in place of your basic fingerings. Alternate fingerings often are included in method books as well as in trill charts. These fingerings are not as well in tune and have an inferior tone quality. However, it is necessary at times to sacrifice good intonation and tone quality in order to adequately perform a passage. Do not rely on alternates when more practice time would enable you to use your basic fingerings.

## ✕ *Modification of Breath Pressure*

Varying the breath pressure alters pitch. Increasing raises the pitch; decreasing will lower the pitch. When either of these technics is used to excess, a strident tone or lifeless sound results. In moderation this means of altering pitch is the most practical and can produce the best results. For subtle pitch changes we suggest this technic in nearly all cases since it does not hinder technic and has no effect on any note other than the one you wish to alter.

## ✕ *Thoughts on Shading and Thumbing*

Shading, when mastered, can be valuable for lowering pitch. When we speak of shading, we refer to partially covering a hole or damping the air stream from an uncovered hole. This can be applied to any uncovered tone hole. By its very nature, shading limits technical facility and most players find it difficult to partially cover a tone hole with consistency. You will find other methods of altering pitch more satisfactory than shading. This term is also applied to technics that we have described under Basic and Alternate Fingerings.

In the high register it is possible to vary pitch by altering the aperture of the thumb hole and/or the angle at which the thumb nail contacts the opening. A larger aperture generally raises the pitch; however, only through experimentation will you find the correct thumbing for specific notes.

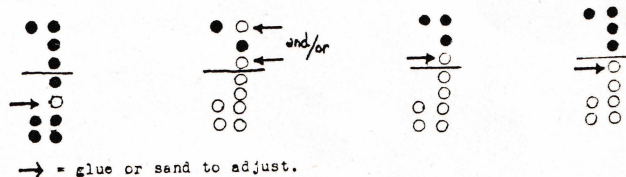
## *Adjusting Tone Holes on the Recorder*

Instruments cannot be built perfectly in tune. While all recorders have intonation problems, a good quality instrument has fewer and less significant problems.

These problems can usually be corrected with altered breath pressure, shading, or thumbing. If a recorder has notes that are too flat or sharp to be played in tune, then, within reasonable limits, appropriate tone holes can be altered.

By adding glue (to decrease the size of the tone hole), the pitch is lowered; by increasing the size of the tone hole (through sanding), the pitch is raised. We suggest you try this only on an instrument you would discard. **DO NOT ATTEMPT TO ALTER A GOOD QUALITY INSTRUMENT WITHOUT EXPERT GUIDANCE.**

The first step is to determine if the pitch in question is too flat or too sharp and whether it can be altered through use of playing technics. The extent of the problem is best established with the use of a strobotuner. The principle is to alter an open tone hole — usually immediately below the last covered hole.



To lower the pitch, use glue to alter the tone hole just below the last covered hole. Dip the end of a toothpick in glue (Elmers perhaps) and spread evenly around the inside of the tone hole — allow to dry — try the instrument to see if the note is now in tune. If not, repeat the process.

To raise a pitch, again alter the tone hole immediately below the last covered hole — this time by sanding. Use very fine sandpaper and a cylindrical object slightly smaller than the tone hole. Wrap the sandpaper tightly around the cylinder, insert in the tone hole, and sand with a rotary motion. (Try the recorder often during this process.) Continue to sand until the pitch is satisfactory. Should you sand too much, this can be corrected by gluing. Remember, altering one tone hole does affect other pitches, and we again caution you — **TRY THIS ONLY ON AN INSTRUMENT YOU WOULD GLADLY DISCARD.**

In conclusion, we hope that you have become more aware of the scope of the intonation problem. Our aim has been to acquaint you with various technics used in improving intonation and to generate interest to the point where you will pursue this. The task is yours! □

\* \* \* \* \*

*Note: This article is based on one of a series of lectures covering various technics of playing, included by the authors in their workshops.*

American Recorder:

Vol. 16 part 4, Feb. 1976

pp 113-122.

# A Composer's Guide to the Recorder

---

*for Robert Starer with annotations by Ian Shanahan.*

**BOB MARGOLIS**

Composer and virtuoso recorderist.

The standard orchestration texts do not describe or even mention the recorder: it is not a member of the orchestra. In my experience, very few composers are well acquainted with the recorder's characteristics—no place exists to easily obtain the information they need to write effectively for the instrument.

This article contains such information as to benefit composer and player alike. Some introductory descriptive material is elementary to recorderists, but much additional material is unavailable elsewhere. So, if you are a recorderist interested in composing or transcribing music or perhaps better understanding any contemporary music you may already own, there is much here you may find useful.

Charts 3, 6, and 7 detailing underblown harmonics, multiphonics, and closed-bell notes are used by permission of Pete Rose, who first made them available at his November 1975 New York Recorder Guild workshop "Possibilities for the Recorder in Contemporary Music."

## A Brief History

By the middle of the eighteenth century the recorder was becoming an obsolete instrument, a casualty of the evolution of musical taste towards a preference for increasing brilliance of both tone and technique. In particular it had been the flute with its greater resources of dynamic shading which replaced the recorder.

But the flute of the eighteenth century resembles the modern, cylindrically bored metal flute only in the method of tone production and certain aspects of appearance—the earlier flute, wooden, one keyed, and conically bored, is sweeter toned, softer, and in certain ways less agile than the modern flute with its Boehm mechanism.\*

The modern recorder, however, quite closely resembles the Baroque recorder in tone, and is identical as to mechanism. The chief distinction is one of pitch, Baroque recorders being often tuned to  $a' = 415$  Hz, a semitone below modern pitch. These low-pitch recorders have a darker tone.

## The Recorder Family

The present-day recorder family is a large one. The approximate lengths and transposition of recorders are shown at the bottom left. (The great bass and sopranino are less often seen, but are not rare.)

There is a thumb hole on the back of the instrument plus seven holes running down the front, the bottom two usually being double holes, plus a hole at the bottom, the bell hole. The instrument is usually in three sections, tuning within the range of approximately a quarter tone being accomplished by pulling out the top section.

Uncommon sizes currently available are the Baroque-pitch soprano in  $c''$ , sounding a major seventh above written notes; Baroque-pitch alto in  $f'$ , sounding a minor second below written notes; Baroque-pitch tenor in  $d'$  (voice flute), sounding a minor second below written notes; Baroque-pitch tenor in  $c'$ , sounding a minor second below written notes. Of these,

| Instrument       | Length in Inches | Actual Sound                  |
|------------------|------------------|-------------------------------|
| Garklein in c''' | 6                | 2 octaves above written notes |
| Sopranino in f'' | 9                | octave above written notes    |
| Soprano in c''   | 12               | octave above written notes    |
| Alto in f'       | 18               | as written                    |
| Tenor in c'      | 24               | as written                    |
| Bass in f        | 36               | octave above written notes    |
| Great bass in c  | 48               | octave above written notes    |
| Contrabass in F  | 72               | as written                    |

⊛ Many are not "harmonics" in the strict sense of the term, but are just fundamentals of unusual timbre.

\*A flute which combines many of the tonal characteristics of the Baroque flute, and all the mechanical advantages of the modern flute is the conical Boehm flute (usually wooden, occasionally metal, and, in its most recent form, with metal head joint). While not as sweet-toned as the Baroque flute, it is sweeter and softer than the modern metal flute. Conical Boehm flutes may be obtained from Brannen Bros., Stow, Massachusetts.

the Baroque-pitch alto is most often seen.

Renaissance-design recorders currently available, usually at modern and sometimes at other pitch levels, are restricted to a compass of one octave plus a major sixth, and found in c'' soprano, f' alto, c' tenor, and f bass sizes. Uncommon is the sopranino in f''. Rare are: sopraninos in c''' (*garkleinflötlein*), a'', and g'', sopranos in d'', and altos in g'. Exceedingly rare is the <sup>contra</sup>great bass in F (over six feet high). Renaissance-design recorders are less reedy in tone (fewer partials), louder overall, and perhaps better suited to closed-consort music (consorts of only recorders) than Baroque recorders.

At one time a soprano in a' and alto in d' (both lying a minor third lower than today's standard soprano in c'' and alto in f') were available.

Fully ninety-nine percent of all modern recorders are of Baroque design at modern pitch. Amateur players usually own soprano, alto, and tenor, and with increasing fre-

quency, bass. Professional players add sopranino to these, and less frequently, great bass.

## Transposition and Notation

The recorders are classed as non-transposing instruments, parts always being written at concert pitch. Players learn two sets of fingerings, one for F instruments and one for C instruments, and make the necessary transposition automatically so that all recorders sound at concert pitch, i.e., "in C."

Parts for sopranino and soprano recorders are written in treble clef with a small "8" above the clef to indicate that notes sound an octave higher than written. (Therefore, for these instruments notes are written an octave lower than they sound.)

Alto and tenor are notated in treble clef, sounding as written.

Bass and great bass are written in bass clef with a small "8" above the clef to indicate that notes sound an octave higher than written. (There-

fore, for these instruments notes are written an octave lower than they sound.)

## Range

Refer to Chart 1.

## Registers

Refer to Chart 2. There are four registers, one fundamental and three overblown. The overblown registers are produced by partially uncovering the thumb hole, tonguing slightly harder and increasing breath pressure somewhat.

On all recorders the fundamental register extends upwards one octave plus a major second, as reckoned from the lowest note of the instrument.

The first overblown register (reckoned from the lowest note of the instrument) extends from one octave plus a minor third to one octave plus a major sixth.

The second overblown register from one octave plus a minor seventh to two octaves.

The third overblown register from two octaves plus a minor second to two octaves plus a minor third.

# CHART 1

## Standard Range

Given in standard recorder notation. See text: "transposition and Notation."

Sopranino in  $f''$

Soprano in  $c''$

Alto in  $f'$

Tenor in  $c'$

Bass in  $f$

Great Bass in  $c$

Contrabass in  $f$  (extremely rare)

Higher and lower notes possible, but see text: "Idiosyncrasies Of The Various Recorders"!

Garklein in  $c'''$  (extremely rare)

The third overblown register from two octaves plus a minor second to two octaves plus a minor third.

The total compass of normal tones (tones not requiring closed bell) is thereby two octaves plus a minor third.

The boundaries between registers are called *breaks*. Notes slurred across registers invariably produce a "click" sound. It is easier to slur from a higher to a lower register than vice versa. While crossing the various register breaks presents difficulties of coordination for beginners, good players can make these transitions smoothly.

## Agility

Wide skips between registers (for tongued notes) are idiomatic for the instrument. In the easiest keys (C Major for  $F$  instruments and G Major for  $C$  instruments) the recorder is as

agile as the flute in scales, arpeggios, and passage work.

Chromatic scale passages are not idiomatic, but are possible. It is a matter of the skill of the player. Beginners will have considerable difficulty with fast chromatic passages as chromatic scales are not part of the usual technical training for the recorder.

Double and triple tonguing produce a light sound, and are more easily accomplished on the recorder than any other woodwind. Maximum velocity varies with the individual player and is not much limited by the instrument itself. The pattern for double tonguing is usually given as d-g d-g. The pattern for triple tonguing is usually given as d-g-d d-g-d although this presents two consecutive single tongues (the two d's) and impairs maximum speed. The pattern for triple tonguing d-g-d-g-d-g yields maximum speed (no single tonguings present). Note that the d's will be accented in preference to the g's: therefore the articulation pattern chosen will be in part dictated by the musical sense of the passage.

of more than four accidentals. Roughly speaking, the greater the number of accidentals in the key signature, the more difficult the technique, minor keys always being more difficult than their relative major keys. Remote keys are not recommended for fast music.

## Effect of Tonality on Timbre

The greater the number of accidentals, the greater the number of forked fingerings required (and the more difficult the technique). But with increased use of forked fingerings there is a change of tone color: fork-fingered notes are less focused or darker sounding than notes which do not require forked fingerings.

## Trills and Tremolo

All trills are possible except: C instruments—low c to c sharp, low d to d sharp<sup>\*</sup>; F instruments—low f to f sharp, low g to g sharp<sup>\*</sup>. The effectiveness of trills depends upon the skill of the player: some trills require the movement of but one finger, others are quite awkward

finger combinations or movements of several fingers.

Within the fundamental register tremolos of up to a major sixth are possible; in the first overblown register a major third is the safe limit. Tremolos between two registers ought not to exceed a major third: the effect is quite chirpy as there are as many "clicks" as notes.

## Idiosyncrasies of the Various Recorders

*Sopranino*: The tones of the fundamental register are weak, the overblown registers being the more characteristic and useful in a traditional context. The tone of these high registers is sweeter and more delicate than the corresponding tones of the piccolo.

*Soprano*: The compass is similar to the piccolo, but the tone of the fundamental register is surprisingly full and strong. Do not take inexperienced players above the second g as they tend to play much too loudly. It is difficult to play the highest notes softly.

The normal articulation is the consonant *d*. Recorder legato is a very mild *d*: the effect is of tones barely touching one another with a continuity approaching legato (slurred). Notate by legato dashes over each note and the specification "recorder legato." Sometimes incorrectly called portato, which it is not, recorder legato is analogous to string *louré* bowing. The recorder's staccato is light and easily produced (notate with a dot over each note as is usual).

## Commonly Seen Tonalities

The most often-seen keys for *F* recorder are: Major—C, G, F, B Flat; Minor—A, E, D, G, C, F. For *C* recorders: Major—G, D, C, F; Minor—E, A, D. Flat keys appear more often than sharp keys. Beginners may find difficult keys containing more than one accidental; even experienced players may be unaccustomed to keys

## Key to Fingering System

### TOP OF RECORDER

|   |                                                      |
|---|------------------------------------------------------|
| 0 | 0 is thumb                                           |
| 1 |                                                      |
| 2 | 1, 2, and 3, are first three fingers of left hand.   |
| 3 |                                                      |
| 4 |                                                      |
| 5 | 4, 5, 6, and 7 are first four fingers of right hand. |
| 6 |                                                      |
| 7 |                                                      |

*Bell* Bell is closed by bell key, player's knee, or thigh. See text.

### BOTTOM OF RECORDER

A diagonal slash through a number thus: 0 means "half"-hole.

Cover only holes *listed* for a given fingering. E.g.: "012"—cover only 012 holes.

\* not so: 012345~~6~~7  
 ↑  
 trill with  
 this finger.

Very difficult for tenor, bass.

However, difficult for (keyless) tenor and possibly the bass,

**Alto:** The most popular recorder, the tone being well balanced through its range, but do not take inexperienced players above the second *e-flat*.

**Tenor:** The richest-sounding recorder, its best tone lying in its fundamental register. Notes approaching the top of the first overblown register become progressively more breathy—so do not treat the tenor recorder as though it were a flute which becomes progressively brilliant as it ascends through its compass. The opposite is true. For agility and brilliance of tone in upper registers choose the alto in preference to the tenor. Do not take inexperienced players above the second *g*. Note that the lowest *c-sharp* is sometimes missing from the instrument.

**Bass:** A very quiet instrument, its fullest tone is in its fundamental register, high notes are breathy—an asset or liability, depending upon context. Direct-blow basses are preferable to basses equipped with a crook [bocal], and Renaissance-design basses are considerably richer-sounding than Baroque-design basses.

instruments) requires a fingering not generally known (see Chart 7). If you require either note, provide the score with fingering indications.

## Special Effects (Coloristic Devices)

*(N.B. Notation for Charts 3 through 7 is for alto recorder, i.e., F recorder. The same fingerings are used for C recorders. The pitches produced, however, will be a perfect fifth higher for soprano recorder, and a perfect fourth lower for tenor recorder. E.g.; The fingering for the first note listed on Chart 5 as d' will produce an a'' on soprano recorder, an a' on tenor recorder, and an a on great bass recorder; the same fingering will produce a d'' on sopranino recorder and a d on bass recorder.)*

Charts 3 through 7 present extra-normal techniques, some of which have come to be associated with avant-garde music. For each of the following techniques it is essential to provide the score both with fingering and descriptive indications. Most of the fingerings contained in the charts are unknown to the majority of recorderists; indeed, some are pre-

I have observed (many of them may be combined simultaneously):

**Portamento or Glissando**, the sliding between pitches, is easier on the recorder than on any other woodwind, provided the portamento does not cross a register break. The technique involves slowly rolling the fingers away from or towards the holes (depending upon whether ascending or descending, respectively) with a careful control of breath pressure. Notate by connecting the first and last pitches with a solid line.

**Underblown Harmonics** [see Chart 3] are accomplished by means of special fingerings to produce true pianissimo sounds, and are really an extension of portamento technique in that breath control and shading of holes (particularly the thumb hole!) is used to control pitch. The sound of the lowest tones is that of a whimper. (Notate as shown.)

**Quarter Tones** [see Chart 4] are easier to produce than on any other woodwind owing to the recorder's lack of keys. Quarter tones are exceedingly difficult within the lower minor third of the compass and are for this reason not included in the

Do not take inexperienced players above the second *c*. Note that the lowest *f-sharp* is frequently missing.

*Great bass*: Quieter than the bass, more usually used for its lowest notes as the highest notes become breathy quickly. Do not take inexperienced players above the second *e*. Always with a crook. Lowest *f-sharp* may sound impure; lowest *c-sharp* and lowest *d-sharp* are missing as often as present.

Two notes deserving special consideration are the highest *f-sharp* and *g-sharp* for *F* instruments and the highest *c-sharp* and *d-sharp* for *C* instruments. The *F* instruments' *f-sharp* (*c-sharp* for *C* instruments) requires a closed-bell fingering for accurate intonation. Few recorders are equipped with a bell key and fewer players have mastered the art of stopping the bell on their knee. The *F* instruments' *g-sharp* (*d-sharp* for *C*

sented here for the first time. Following are all the extranormal techniques half-holing of half holes and shaded

↑ there are others!

## CHART 2 Location of Registers

Chart 2 illustrates the location of registers for a recorder, showing four registers on a single staff:

- Fundamental Register**: Shows two pairs of notes (half notes) with fingerings.
- 1st Overblown Register**: Shows two pairs of notes (half notes) with fingerings, including a flat (b) for the first note of each pair.
- 2nd Overblown Register**: Shows two pairs of notes (half notes) with fingerings, including a flat (b) for the first note of each pair.
- 3rd Overblown Register**: Shows two pairs of notes (half notes) with fingerings, including a flat (b) for the first note of each pair. This register is bracketed and labeled **F** and **C** for *F* and *C* instruments respectively.

Below the staff, two staves are labeled **Recorders** and **Recorders** with a double slash indicating the instrument type.

bell technique is the only means of quarter tone production—an awkward process. Elsewhere, quarter tones are produced by relatively simple, though unorthodox fingerings. Quarter tones may also be used in the fashion of jazz-style “blue” notes; microtones are also possible. All fingerings should be indicated below the notes. Tui St. George Tucker was the first person to publish a quarter tone fingering chart for the recorder, in Anfor RCE no. 14, *Sonata* and *Romanza* for solo recorder. As any two fingering charts, these two differ. Quarter tones above the range in Chart 4 are difficult to produce with accuracy of pitch. (Notate as shown.)

Flutter Tonguing is again easier

than on any other woodwind, owing to the recorder’s virtually indifferent embouchure technique. Flutter tongue is accomplished either by a rolled “r” sound or a voiceless back-of-throat gargle, the resultant sound being nearly identical. <sup>NOT TRUE!</sup>

*Alternate Fingerings* [see Chart 5], quite aside from their usefulness as trill fingerings, produce variations in timbre from corresponding standard fingerings. Alternate and standard fingerings are sometimes alternated quickly to produce effects of timbre juxtaposition, much in the same way as standard and underblown harmonic fingerings are sometimes alternated to produce echo effects. (Notate as shown.)

*Chords or Multiphonics* [see Chart

6]: Chords are the production of several sounds simultaneously by controlled overblowing, using special fingerings. The sound is a distorted, growling buzz, and is very easily produced. However, each make of recorder responds differently to a given fingering (the chords in Chart 6 work on most recorders), and specifying the make of recorder used would be helpful information. From the player’s point of view, chords should be approached in this fashion: first, play separately the pitches of the chord to fix them in the mind. These are the pitches to aim for, but they may not be exact. Then, fingering the chord as indicated, gradually increase breath pressure until the sound “cracks,” producing several pitches simultaneously—this is the breath pressure required to produce this particular chord. If this does not work, start the chord with a strong attack, immediately pulling back on breath pressure—certain chords require this “reverse” technique. If still unsuccessful, it may be necessary to leak air from certain holes, something to be determined by trial and error. Almost any fingering whatsoever will produce a chord if properly coaxed by the methods just described.

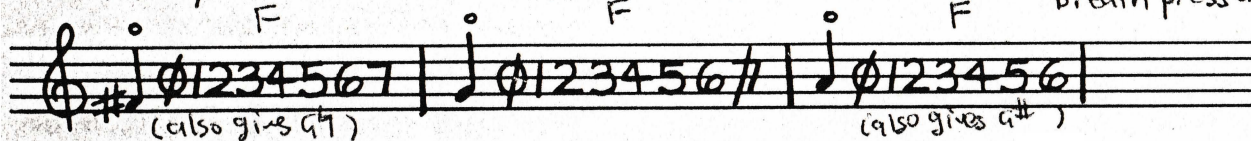
Chords are one type of multi-

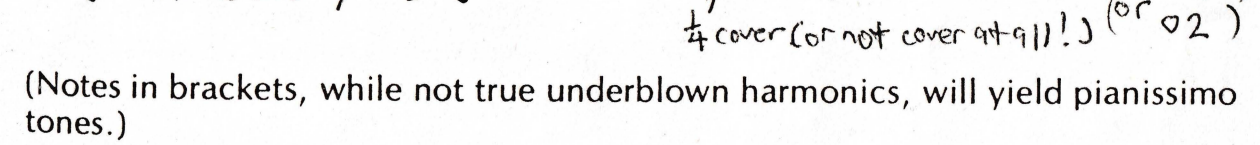
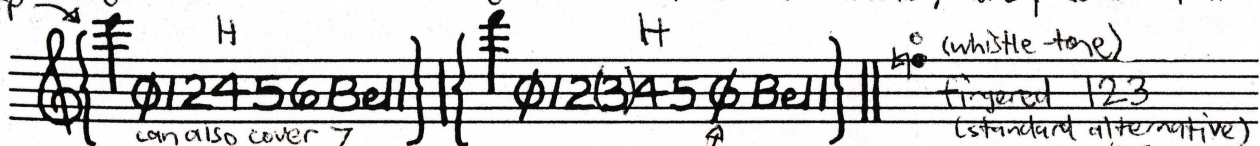
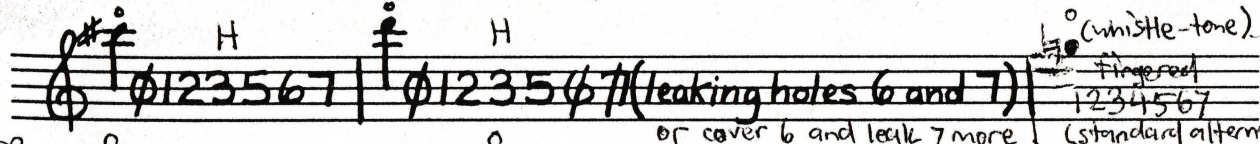
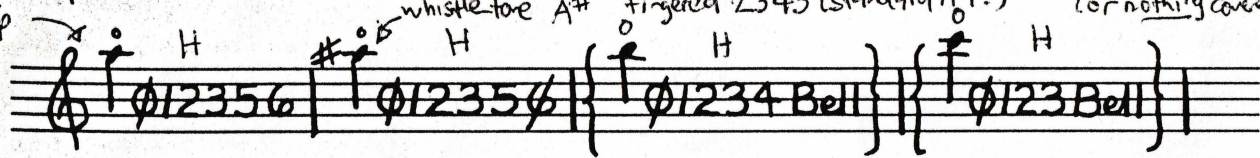
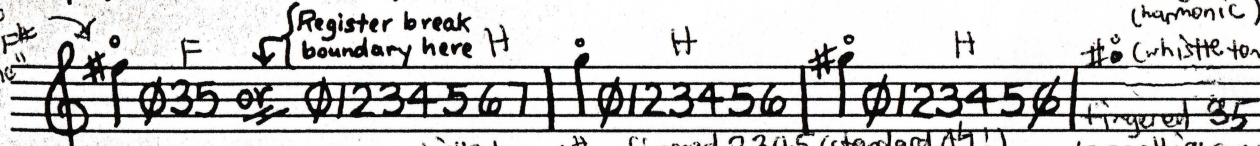
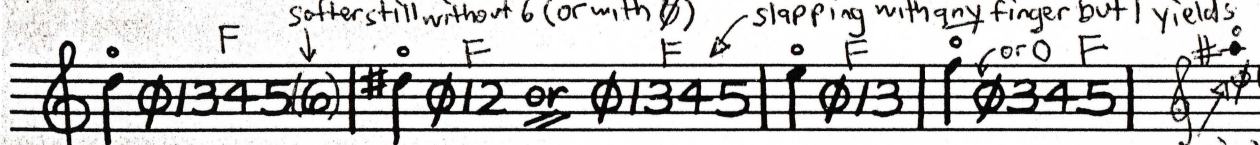
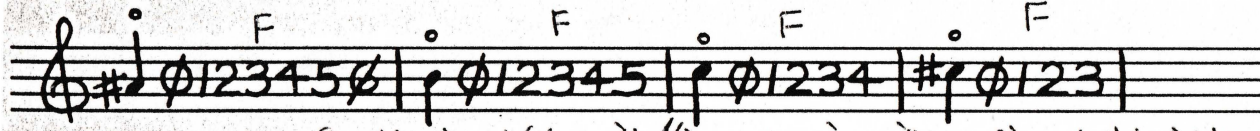
### CHART 3

\* **Underblown Harmonics** <sup>all obtained by “pinching” the thumb.</sup>  
(Pianissimo Tones)

#### ALTO RECORDER NOTATION

Important Pitch is controlled by thumb aperture and breath pressure. Blow extremely softly. Many of these can also have pitch greatly varied (more than usual) with breath pressure.





(Notes in brackets, while not true underblown harmonics, will yield pianissimo tones.)

\* Fingerings marked 'F' are fundamentals. Only those marked 'H' are true harmonics. {An important method of determining the fundamental

of any fingering is the use of fingerslapping: softly slapping the first finger of the L.H. (or the finger closest to 1 if 1 itself isn't being used (as in 0 2 3 - slap 2 softly, giving E)) yields the fundamental. (R.H. fingers may not!) } as 0 1 3 4 5 (see above) : slap 3, 4 or 5 and high A# (harmonic) is heard instead of the fundamental D#.

Chords are one type of multiphonics. Other multiphonics involve singing into the instrument (the lips, as normal, enclosing the mouthpiece). Sung tones of low pitch produce a buzzing sound. Falsetto tones produce far less buzzing, and the sung tones themselves are more easily identifiable.

Always give the fingerings for chords directly under the chords.

White Noise is a rushing-wind sound produced by stopping the bell with a porous material such as carpet, closing all the holes, and leaking air from the thumb hole. High-pitched harmonics at dog-whistle frequencies will sound, the frequencies varying with breath pressure.

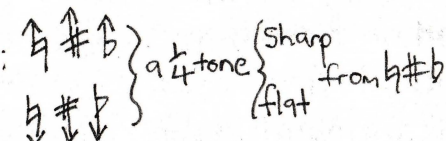
Closed Bell Notes and Extraordinary Pitches [see Chart 7]: It is possible to considerably extend the

# CHART 4

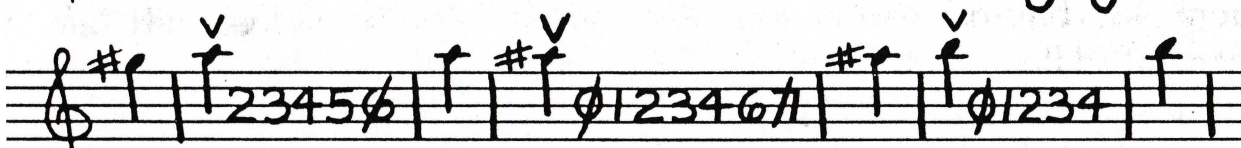
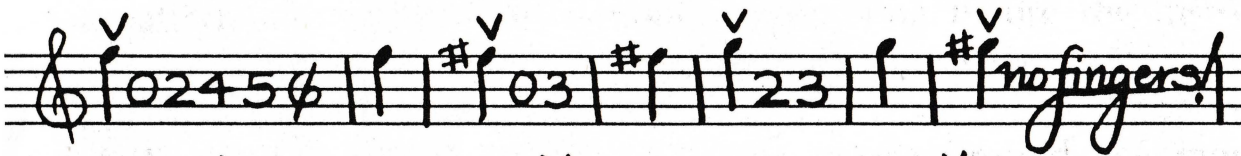
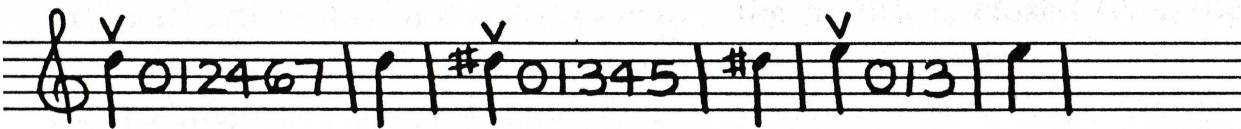
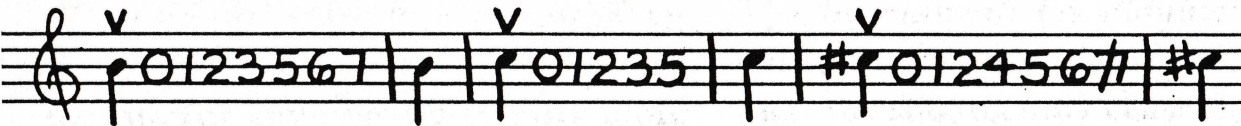
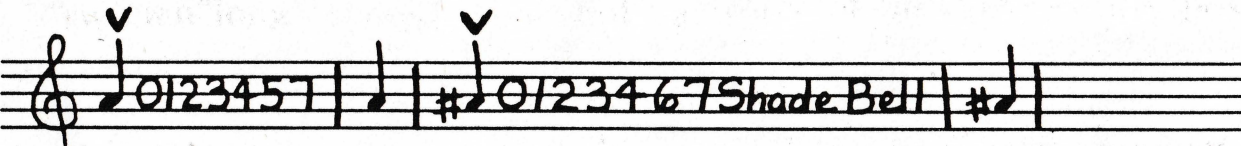
## Quarter Tones

### ALTO RECORDER NOTATION

An octave consists of twenty-four quarter tones or twelve semitones. A quarter tone is an interval equal to one quarter of a whole tone (one half of a semitone). The interval between adjacent notes on this chart is one quarter tone. The notes without fingerings are the "standard" pitches in their proper locations in the quarter tone scale.

(Two quarter tones = one semitone.) A better system:  (Four quarter tones = one whole tone.)

The symbol [V] indicates "one quarter tone flat"



range of the recorder by means of stopping the bell hole. Few recorders are equipped with a bell key, so the bell hole is usually stopped by the player's knee or thigh (the left side is more convenient for most). The porosity of clothing may allow air to leak. For this reason it is a good idea to put some plastic warp on top of the clothing—this assures a good airtight seal necessary for closed bell notes. (However, the bell trill at the end of Tui St. George Tucker's *Sonata* (edition previously cited) is played with the palm of the right hand, as only the left hand is occupied with fingerings.)

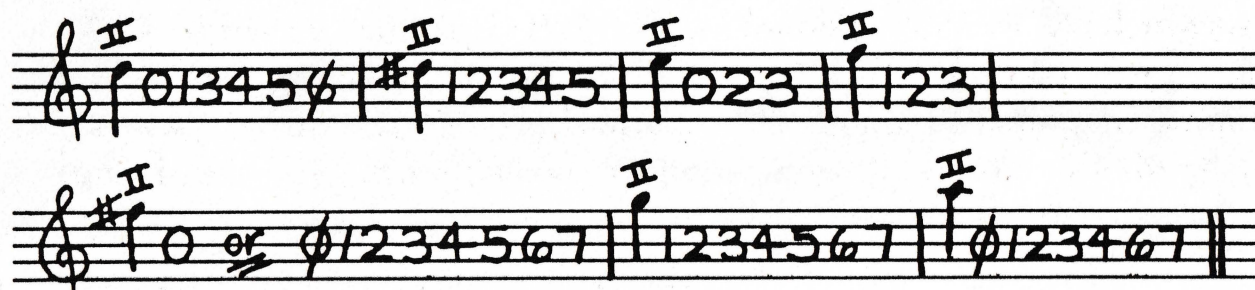
A much overlooked function of the bell is its usefulness in permitting rapid movement between extreme pitches—movement which would otherwise be quite awkward. It is for this reason that closed bell fingerings are given for notes which could otherwise be produced normally, with open bell. So, for rapid movement between notes lying within



### CHART 5 Alternate Fingerings

#### ALTO RECORDER NOTATION

These fingerings yield the indicated pitches at normal or near-normal volume levels. They are useful for producing variations of timbre; also normally used as trill fingerings. It is possible to slur back and forth between any alternate fingering and its corresponding standard fingering.



far-spaced registers (e.g., movement between the fundamental register and notes higher than the first overblown register) examine Chart 7 to determine whether closed bell fingerings would simplify technique. Of course, certain extraordinary low and high pitches can be produced only with closed bell.

There is no standard notation for closed bell notes. One possibility is writing the word "Bell" over each such note. If an extended passage is to be played entirely with closed bell, write *Bell* followed by a dashed line over the closed bell notes, terminating with a downward jog at the end of the closed bell passage, much in the same way as 8va followed by a dashed line is used to indicate a passage to be played an octave higher. Another possible notation, calligraphically more difficult but visually more compelling, is to enclose all closed bell notes within a rectangular box. This will serve to alert the player to lower the recorder to close the bell.

*Finger Vibrato* is the oscillation of pitch between normal and somewhat

My system = to blature

left hand  
right hand  
bell

flat (by about a quarter tone) levels, accomplished by partially covering and uncovering a conveniently located lower hole in the manner of a trill. Surprisingly, this is a Baroque technique which had been used to "sweeten" long tones, and not a modern innovation. The effect can be eerie. Notate by the word *finger-vibrato*.

*Rhythmic Breath Pressure Vibrato:* An increase in breath pressure raises the pitch of any note by slightly more than a quarter tone, and a decrease in pressure lowers the pitch, but by a smaller degree. The speed and rhythmic pattern of these pitch fluctuations may be notated (possibly by means of small rhythmic values superscribed) and the depth indicated (either by dynamic markings or by wavy-lined vibrato graphs).

*Windway Vibrato* is produced by waving the right hand over the window\*—the sound is that of an extremely exaggerated vibrato. As the right hand is thus occupied, only the left hand is available to finger notes (unless another performer is called

top of its range, quite capable of cutting through a symphony orchestra. The tenor recorder seems loudest here. Curiously enough, fingering has no effect on pitch(!) and the standard fingering of convenience is 0123. Only force of breath pressure, position of covering hand, and oddly enough bell closure have effect on pitch.

*Transition From Singing Outside The Instrument To Playing* may be made directly, without break; further, the singing may cease the instant the mouth is closed over the mouthpiece or continue together with the playing. Whatever vowel sounds are being sung before the instrument is brought to the lips will diphthongize to the sound "oo" as soon as the lips are closed around the mouthpiece\*. The diphthong will be formed starting with "oo" and sliding to the new vowel sound when the transition is the reverse, from playing to singing. (Of course, if the vowel sung is "oo" there will be no new vowel sound or diphthong formed in transition.)

In general, whenever pitches are to be sung, they are so indicated on a

to vowel sounds, the interrupted rushing air will be given vowel shapes in an extraordinary manner. Surely other effects are possible.

*Playing More Than One Recorder Simultaneously:* Using only one hand a player can play on *F* instruments the notes *c, d, e, f, f-sharp, g, octave c, and octave d*, plus certain intermediate tones. (For tones for *C* instruments transpose up a perfect fifth.) With one player playing one instrument in each hand, any combinations of these notes can be sounded together, but if one instrument octaves, the other usually must. Since the player is tonguing two recorders at once there will be a perfect synchronization of rhythms, flutter tongue, vibrato, and, depending upon skill, trills. It is possible, if physical limitations are kept in mind, to add a third recorder as a drone.

*Prepared Recorder:* We see much of prepared pianos, harpsichords, and the like, but nothing, in my experience, of prepared recorders. The easiest preparation is taping certain holes shut; used in conjunction with

upon to produce the windway vibrato while the "main" performer plays the notes).

*Covered Windway:* In the windway vibrato, the hand approaches the window or labium only so close as to lower the pitch. If the right hand is gently cupped over the window and brought steadily closer thereto, the pitch will gradually get progressively lower until a point is reached where the pitch shifts sharply upwards to a shrill squeal. This is the piercing sound of the covered windway (*gently covered*, for if it is completely covered,\*\* the sound will become a stifled, breathy squeal). However, properly controlled, covered windway can be an ear-splitting shriek, equal to the power of a piccolo at the

*\*This part of the recorder is variously referred to as window, lip, labium, or knife edge—in any event it is the slot in the head joint from which air emerges.*

separate staff below, and joined to the instrument's staff by a bracket.

*Parts of the Recorder* may be played separately. The head joint alone will produce slide-whistlelike sounds if a finger is inserted therein (closed windway and stopped bottom are also possible). The bottom two sections may be played in the manner of a trumpet (or cornett) with results which may be comical. Or, using the bottom two sections with the bell tightly closed, the mouth is placed firmly around the top opening and all the holes are tightly covered—the net result being an airtight seal. If, in this manner, air is sucked inwards while trilling with any one finger, an interrupted rushing-air sound is produced. If additionally the shape of the mouth cavity is changed to conform

*\*\*WARNING: Do not touch the knife edge itself as it is subject to warping and splitting on wooden recorders.*

playing more than one recorder simultaneously there is a possible expansion of pitches available. (The most obvious holes to tape are 0123: the fingers of the right hand then cover holes 4567 and the left hand takes a second recorder played "normally." The recorder's close relative, the pennywhistle, is particularly well suited for this, having only six holes and octaving by breath pressure alone. I like the British-made *Generation* pennywhistle, which I believe they call a flageolet, particularly the one in b-flat'. The American-made *Flutophone*®, of charming tone although restricted to a compass of one octave plus a major second, is also an interesting subject for this treatment. Both are quite inexpensive.)

A somewhat risky preparation for the recorder would involve drilling extra holes to alter the temperament of the scale. A plastic recorder would serve well as a guinea pig for those who may wish to attempt this.

*\* This is not the case necessarily: "ee" sounds different to "oo".*

A sort of preparation is the British-made *Dolmetsch Tone Projector*, which may still be available. The projector is a plastic apparatus in a wheelbarrowlike shape which fits over the window of the recorder. I have sizes to fit soprano and alto recorder. The tone projector lowers pitch slightly allowing for greater breath pressures and higher volume levels.

If it is volume you want, the recorder can be electrified by adding a contact microphone. This will require drilling a hole in the head joint.

If it is softness, an echo key can be installed. This is a closed-standing key operated by the player's chin.

The key covers a small hole bored at the base of the beak on the back of the recorder. When the hole is open, the instrument goes sharp, requiring lower breath pressure to bring pitch back to normal. Lower breath pressure causes lower volume.

To *mute* the recorder, tape halfway shut holes 1234567. Tape the bottom half of holes 124567 shut, and the top half of hole 3. This preparation may be of use to those who wish to practice late hours without disturbing neighbors. Since not only tone and intonation are degraded but also it becomes difficult to find the holes with the tape in the way, this preparation might not be a good idea

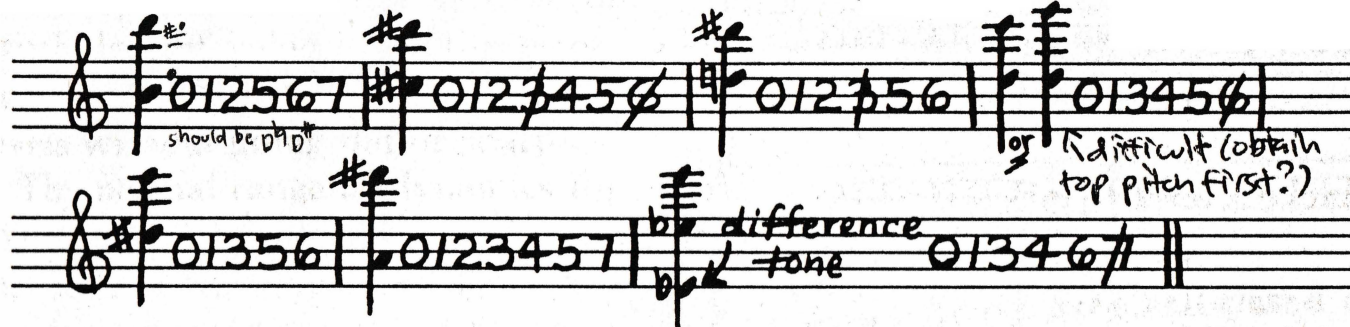
for concert performance. (We tape the *top* of hole 3 shut to permit the production of  $\emptyset 12$ , *d* for *F* instruments, *a* for *C* instruments.) A piece of paper put up the windway will also mute the instrument and degrade the tone. The paper is likely to become both wet and stuck, however, and the probability of damaging both the windway and the knife edge is too great to risk comfortably, so this perilous preparation is recommended only for a plastic instrument.

*Tapped-hole Tones:* By fingering any note within the fundamental register of the recorder and sharply tapping one hole, a hollow percussive sound will be produced. (Tap the finger on a hole that would normally be closed for the note selected.) In a sense, this is the recorder's equivalent of the violin's left hand pizzicato. The sound, although pianissimo, projects well, but production of the sound requires considerable force. Speed may be somewhat impaired, and since articulation of the sounds is being accomplished by the finger, not the tongue, a modified finger technique must be learned. Notate with

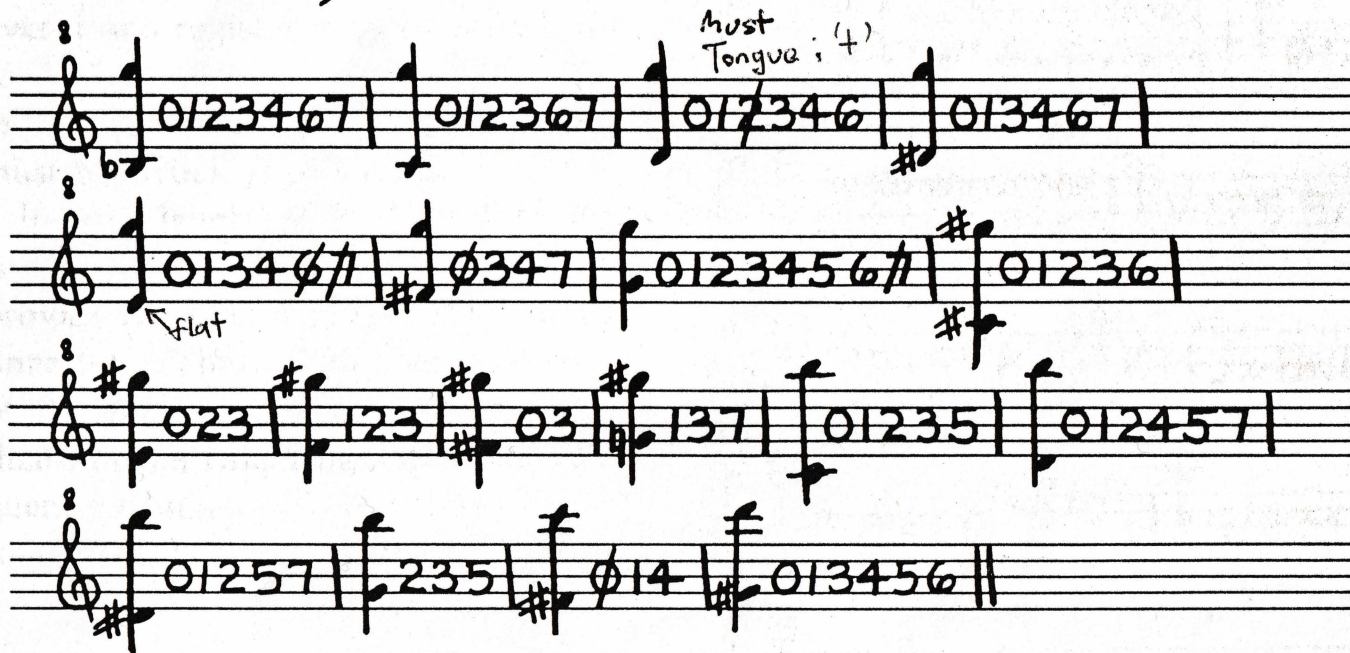
# CHART 6 Chords [Multiphonics]

ALTO RECORDER NOTATION  
Approximate pitches. See text.

The image shows a handwritten musical staff with three measures of notation. The first measure is in G-clef and contains the fingering sequence 01234567B. Above the staff, there is an upward-pointing arrow with the text 'this pitch obtained first' and a sharp sign (#). Below the staff, there is a note 'and b o'. The second measure is in C-clef and contains the fingering sequence 01234567. Above the staff, there is a sharp sign (#) with the text 'F# is flat closer to (ie F#) F#'. The third measure is in C-clef and contains the fingering sequence 0123567. Below the staff, there is a note 'R surely 1/4 tone flatter! closer to B'.



The following chords sound an octave higher than written:



\* Many other chords are possible. Almost any fingering will produce a chord.

In fact ALL fingerings will, though some are more fruitful than others.

x's in place of note heads.

**Special Articulations:** The recorder is very responsive to minute changes in articulation. Great alterations of articulation consonants will produce marked changes in the shape of the tones produced.

The Baroque double tongue "did'll" will shape notes differently from the modern "duh-guh" double tongue. The attack is smoother, and it sounds as if the recorder were *saying* "diddle."

The consonants *t*, *k*, and *p* pronounced (voiceless) explosively makes a quazi-pizzicato sound. The technique involves keeping the mouth partially open, the instrument resting on the lower lip. It is possible to briefly sustain tones in this fashion, although much air is wasted with the mouth partially open and the sustained tones are of breathy quality.

The sounds "s" and "sh" may be used as articulations in two ways:

Either as initial attacks, or sustained noise. In the latter, the player hisses or *shushes* ("s" and "sh", respectively) for the duration of the note. A variant of this requires the player to hold the instrument at an angle (deflected horizontally, usually rightwards) and form his lips to a consonant midway between *f* and *v* (the so-called Spanish *v*). The sound is one of equal proportions of tone and rushing air.

Notate all these clearly as regards the possible variations.

## Dynamics

Unless the special techniques of the underblown harmonics are used, the recorder is normally limited to a narrow dynamic range. As mentioned under the heading "Rhythmic Breath Pressure Vibrato" an increase in breath pressure will, besides increasing volume somewhat, cause the recorder to go sharp. Thus, the use of *p* and *f* as dynamic levels is of psychological value only: the recorder cannot produce these volume levels without going flat or sharp. | It can for some fingerings

The normal range of dynamics for the recorder in its fundamental register is *mp* to *mf*. The first two

locating some of these. Otherwise, try to find appropriate shade-fingerings—that is, covering and partially covering holes that would normally be open. Once the note has been flattened by shade-fingering or quarter tone fingerings, it is raised to proper pitch by increased breath pressure, which also means increased volume. Tone quality is bound to shift drastically. The bell may also be shaded to lower certain notes. Curiously though, the bell when closed

will lower certain pitches, and raise others. The lowering effect is gradual, varying directly with the degree of bell closure; the raising of pitch is stepped, the note clicking instantly to a higher pitch. For example, finger 01346 and slowly close the bell—the pitch will slide slowly down. Then finger 02356 and slowly close the bell—the pitch will instantly crack upwards. This is very strange indeed.

But then, the charm of the recorder lies partly in its limitations.

eg. a low E<sup>4</sup> can be obtained from low F<sup>4</sup> (01234567) by half-closing the bell.

## CHART 7

### Closed-Bell Notes and Extraordinary Pitches

#### ALTO RECORDER NOTATION

Closed bell is useful in permitting rapid movement between extreme pitches (see text). Closed bell also provides notes outside the standard range. For higher notes than those listed here see text: "Covered Windway."

01234567 Bell (soft) 01234567 Bell (soft) 0123456 Bell

012345 Bell or 0123467 Bell 0123467 Bell 012346 Bell

012356 Bell 0123 Bell 01245 Bell

useful for a/b<sup>b</sup> trill useful for a/b<sup>b</sup> trill

overblown registers offer a range of from *mp* to *f*. (The dynamic range of the flute is greater.) Tones of the third overblown register may be struck *mf* to *ff*. The next two semitones have the same dynamic range. Notes above must be struck *ff* to sound.

If true levels of *pp*\* and *ff* are wanted, special fingerings must be provided. Chart 3 gives excellent *pp* fingerings. There is not yet a system of *ff* fingerings: basically, flatter- than- than-normal fingerings are used (frequently coarsening tone). The quarter tone chart 4 may be helpful in

\*Baroque technique requires *p* echo passages to be played staccato, giving the subjective impression of softness. It further seems that the ear may be relatively insensitive to flat notes of very brief duration.

keep bell closed and use standard fingerings | 2345 Bell

flat and highly unstable - difficult to get (2345 Bell)

no known closed bell fingerings | 01234 Bell | 01235 Bell

no known closed bell fingering | 0125 Bell | no known closed bell fingering ✓

at least 2 of 01246(7) Bell (see Vetter: Il Flauto dolce ed Acerbo) correct!

012456 Bell (soft) | 01456 Bell | 01346 Bell | 013 Bell

(THE STANDARD FINGERING)

02356 Bell left | 0123456 Bell or 02356 Bell

012456 Bell Slightly Leaking or 0256 Bell | 01245 Bell left (loud) | Open

014 Bell left (loud) | 013456 Bell (loud) | 01356 Bell left (loud) | Open

Exordior

Better to shade bell, or cover with cloth, or mute bell through cloth too. nice (2345 Bell also gives a multiphonic).

SEE A<sup>4</sup>

## For Further Reference

(Prices are approximate)

\* Alemann, Eduardo Armando. *Spectra* for Four Recorders. New York: Galaxy Music Corporation, American Recorder Society Editions, No. 79, 1975. Performance Score, \$2.50; Record, \$3.00; Set of Score and Record, \$5.50.

\* Andriessen, Louis. *Sweet* for Alto Recorder. London: Schott & Co., Ltd., 1972. The Modern Recorder Series No. 2. RMS 1370. \$2.50.

\* Berio, Luciano. *Gesti* for Alto Recorder. London: Universal Edition, 1970. (Joseph Boonin, Inc., Music Publications, P.O. Box 2124, South Hackensack, NJ) approximately \$2.30 (U.E. 15627)

Britten, Benjamin. *Scherzo* for SATB Recorder Consort. London: Hawkes & Sons, 1955. Edition RP 1, 65 cents. (Recorder on E.M.I. SLS 5022) Also available in Boosey & Hawkes: "Recorder Pieces from the 12 to the 20th Century."

C.R.A. [initials only] *Tres Movimientos para Flauta Dulce* (Soprano). Buenos Aires: Barry, 1962. (Boosey & Hawkes) \$1.00.

\* Du Bois, Rob. *Spiel und Zwischen-spiel* for Alto Recorder and Piano. Amsterdam: Donemus. Edition D398. (For U.S.A. and Canada: C.F. Peters Corporation, 373 Park Avenue NYC) approx. \$8.00

\* Hindemith, Paul. *Trio* from *Ploner Musiktag*. Originally written for Soprano in A and two Altos in D. Mainz: B. Schott's Sohne, 1932. Edition 33554D5. Transposed version for Soprano, Alto, and Tenor: London: Schott & Co., Ltd., 1952. Edition 10094a miniature score. (Recorded on E.M.I. SLS 5022)

\* Linde, Hans-Martin. *Music for a Bird* for Treble Recorder Solo. Mainz: B. Schott's Sohne. Edition Schott 6278. RMS 2050. (Recorded by the composer on E.M.I. Electrola/Odeon 1C065-28841) approx. \$1.75

\* Miller, Edward. *Song* for Recorder or Flute. New York: McGinnis and Marx, 1964. (Recorded by Bernard Krainis on Odyssey 32160144) approx \$2.00.

Murrill, Herbert. *Sonata* for Treble Recorder or Flute. London: Oxford University Press, 1951. approx. \$2.00

of Quantz's classic of Baroque music instruction, written in 1752. Much more than a flute method, Quantz's book gives "inside information" of value to all musicians—composers and performers alike. Quantz's approach to performance esthetic seems valid for much modern music.)

\* Tiet, Ton-That. *Ai Van 2* (Epitaphe 2) for Bass Recorder and Harpsichord. Paris: Societé des Editions Jobert, 44 Rue du Colisée. 75008 Paris. 1973. approx. \$5.75

\* Tucker, Tui St. George. *Sonata* for Solo Recorder and *Romanza* for Solo Recorder. Brooklyn, NY: Anfor Music Publishing, 1970. RCE No. 14. \$2.00 (Terminal Music, 166 W. 48 St., NYC)

\* Vetter Michael. *Il flauto dolce ed acerbo: Instructions and Exercises for Players of New Recorder Music*. Celle: Moeck Verlag, 1969. Edition Moeck Nr. 40009. Approximately \$20.00. Temporarily out of print. (Also contains some 4,000 additional fingerings. Do not, however, assume that these will all work on all recorders—they must be tested individually. Also contains excerpts from the modern literature, notation chart, technical advice, and exercises which are very difficult. German and Eng-

Dorough, Robert. *Eons Ago Blue* for  
ATTB Recorder Consort and optional  
percussion and gamba or cello.  
Hullabaloo Music, 1962. (Recorded  
on Odyssey 32160144)

Quantz, Johann Joachim. *On Playing  
The Flute*. New York: Schirmer  
Books, 1966. In paperback, \$7.95.  
(This is Edward R. Reilly's translation

are very difficult. German and Eng-  
lish in one volume.)

# Correspondence

American Recorder:  
Vol. 17 part 1, May 1976  
p. 6

**Re: A Composer's Guide to the  
Recorder by Bob Margolis  
(February 1976)**

*Corrections and additions*

registers—these overlap, as follows:

$\sharp = \frac{1}{4}$  tone sharp

( $F_2$  can be obtained from 01234567  $\square$  2nd reg.)

trills and tremolo—the trill of low g to g sharp (on the alto) is possible: the fingering is 01234567 (trill 7).

special effects—in the notation of a portamento or glissando, the composer should be careful to notate exactly the desired effect in the following manner: the glissando will start (moving) at the beginning of the last note (head) before the line and will arrive at the note at the end of the line, on time. If the composer wants the note to be held a certain amount of time before the glissando starts, a note of that value should be tied to the note before the line.



If the amount of time taken during the glissando cannot be expressed by a single note, notate as follows:



special effects—when using windway vibrato, especially on notes in the fundamental register, half-steps usually requiring the right hand can be played using the fingerings:

1st 2nd register.  
c# (either register): 0123 (Ø123)  
d#: 012 Ø12 also. (either register)  
g#: \_\_\_\_\_ (all open) [loud]

The slight intonation problems usually encountered with such fingerings is not a problem here, since the nature of wind-way vibrato is to broaden the pitch enough to cover slight intonation errors.

I consider these minor errata and omissions in an otherwise useful and informative article. my thanks to Mr. Margolis.

*Stephen A. Malinowski*  
*Santa Barbara, California*

*Mr. Margolis replies:*

Mr. Malinowski's comments are well taken, indeed, all he describes is accurate. Our charts differ because I have put the register breaks where they naturally occur with the use of normal fingerings. The main reason for providing composers with this information is to put them on alert that notes slurred across register breaks produce click noises. Sometimes, looking at recorder music obviously written by nonrecorderists I find a large number of such slurs in passages of a cantabile nature. It is my feeling that if these composers were aware of the bad effect of such slurs upon the continuity of the line, they might not write them. This becomes a matter of the composer's individual preference—some may not find the clicks intrusive, and some may consider them part of the recorder's characteristic sound, and so cultivate them for creative purpose. Composers ought also be mindful of two other factors in this matter: First, the more skillful a player is, the better he will be able to smoothly negotiate such across-the-break slurs, and second, some across-the-break slurs are easier of technique and less click-prone than others. For reasons best appreciated by recorderists, measure one of the following example is less easy than measure two:



On the face of it measure one looks easier to a nonrecorderist because the jumps are smaller. As it happens, these particular jumps are quite difficult to slur smoothly. Both measures are much easier tongued.

The following passage when slurred using normal fingerings makes clicks:



Mr. Malinowski's chart shows that it is possible to extend the normal compass of the registers by the fingerings given therein. The 01234567 fingering for f" # brings this note into the 1st overblown register along with a" thus making it possible to play the above example without clicks. As this is not the fingering players would normally use for f" # the composer must indicate it if he wishes it. (g" may likewise be put up into the 1st overblown register with the fingering 1234567.)

My advice to composers is to follow the location of the registers as given in Chart 2 of my article for *normal* usage. Mr. Malinowski's chart is equally accurate, for *special* usage, and this means the composer must be prepared to provide the special fingerings and should be aware of the change in timbre (which may or may not be desirable according to context and taste) resulting from these fingerings.

Where the composer wishes to write the longest possible unbroken glissando, by all means he should follow Mr. Malinowski's chart as a guide to the outwardmost extents of range within a given register, being sure to provide Mr. Malinowski's fingerings for the quarter-tone notes and the f" #.

As to the matter of the alto's low g/g# trill—this can be played with the fingering given, but there are two reservations: The g' thus obtained tends to be sharp, and the fingering is awkward, especially so if it must be gotten to quickly. Writing such a trill is like writing a passage of parallel tenths in one hand for piano: the virtuosi will play it; ordinary persons will not. Recorderists with short pinkies <sup>← little finger.</sup> will find this trill impossible; virtuosi with long and limber fingers will play it.\*

The half-steps Mr. Malinowski provides for the left hand only in windway vibrato work well. Another note for the left hand only is g'''#, fingered 013 and played forte or louder.

*\*Recorder Technique by A. Rowland-Jones (Oxford University Press) is a bountiful source of information for trill and alternate fingerings and much else.*